The American Practitioner.

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Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

THE INFECTIOUS NATURE OF TUBERCULOSIS.*

BY WALKER SCHELL, M. D.

Tuberculosis is well understood to be a disease characterized by the development of nodules (tuberculi). These nodules are non-vascular, cellular, translucent, of limited size, and developed in connective tissue. The anatomical elements of a tubercle are accidental. The differences in cellular construction of tubercle all point to the fact that the histological elements are conditioned upon locality (as fibrous organizations in the testicle). Frequently they are made up almost wholly of nucleated round cells. These round cells are developed out of white blood-cells, and play the principal rôle in the formation of the tuberculum, according to Ziegler. Giant cells are frequently found in the older central portion of the tubercle. Schüppel claimed that these cells were characteristic of tubercle. We now know that they are found in various forms of granulation tissue. It is not always easy to distinguish a giant cell from an epithelial or endothelial cell. All members of this Society who have had much practical experience with the microscope know this to be true. The difficulty is greater in sections from the liver, or where the

*Read before the Indiana State Medical Society, May 13, 1885.

tubercle is in relation to the wall of a blood- or lymph-vessel. Giant cells are rather more numerous in tubercle nodules than other forms of granulations. This may be due to the low vitality of these granulations. The deficient blood-supply brings about its early caseation, fatty metamorphosis, or necrobiosis. These changes are doubtless brought about by a partial digestion of albuminates, which occurs at a temperature of 37° (Celsus). Virchow classified these nodules among the tumors. He called them granulation tumors. Klebs termed them infectious tumors, and Ziegler infectious granulation tumors. Experiment has long since settled the fact that tuberculosis can be produced by inoculation. These experiments have been performed by Klebs, Cohnheim, and many others. Every one familiar with the post-mortem appearances of this disease has observed the distribution of miliary tubercles around an old cheesy deposit in the apex of the lung. I have several times observed infection of the entire organism from a caseous lymph-gland. All surgeons have had occasion to regret failure to remove such glands. When the deposit in the apex of the lung is limited, and the process still distinctly local, a surgical operation might be undertaken with a reasonable prospect of preventing general infection. Such operations do not lie far in the future. Bollinger, of Munich, has shown that the pearl disease of cattle is identical with tuberculosis. Under his instruction in the pathological laboratory, I prepared sections showing the presence of bacilli tuberculosis in the pearl-nodules of cattle. The milk of animals so diseased is capable of infecting those who use it. The sale of such milk should be prohibited by law, enforced by the inspection of health officers.

Cohnheim, in his earlier experiments, claimed that he was able to produce tuberculosis by inoculation with other substances than tuberculous material, as cheese, old flesh, leather, etc. That tubercles were found in many animals thus experimented upon is no proof of direct causation. Where the vital powers of animals are thus deteriorated they are more easily infected. I have been informed that many of these animals were

kept in bad hygienic surroundings. Villeman long ago performed his vaccination experiments, and hundreds of experimenters have followed in the path of his demonstrations. Tappenier proved that dogs could be infected by the inhalation of tuberculous sputa. These experiments were performed before the specific cause of tuberculosis was known. It was not then known that tuberculosis was caused by a parasite. While I was an attendant at the hospital at Munich, Ziemssen caused a large number of observations to be made of the relation of bacilli to phthisis pulmonum. In every instance where bacilli were found the disease proved upon section to be tuberculosis, and when not found, after repeated examinations in suspicious cases, the disease proved to be other than tuberculosis. This was the sign most relied on in making a differential diagnosis. For the last two years I have placed great reliance upon the presence of bacilli as a diagnostic sign. Not only is it valuable in differential diagnosis, but I think I have discovered a relation to the rapidity of tubercle eruption. I have in several instances observed a marked relation of the symptoms to the number of bacilli discharged in the sputa. I have thus been able to predict with a certain degree of accuracy the varying condition of the patient from the microscopical examination of the sputa alone, where the specimens were sent to me from a distance. In one instance of acute tuberculosis, where diagnosis was exceedingly difficult by reason of acute pneumonia of the left apex, I found bacilli in great numbers, and the case made rapid progress, infection of the entire organism taking place, and death occurring from tubercular meningitis in three weeks after the initiatory chill.

Many individuals after long exposure escape infection, as happens in other infectious diseases. We who have cultivated bacteria have observed their dependence upon culture fluids. Bacteria which produce lactic acid from milk lose this power when cultivated in a solution of albuminates. Many other varieties of bacteria lose or acquire properties when cultivated in different solutions.

Heredity in consumption may consist in a favorable constitutional soil in which bacilli may multiply.

This may be the connection of what the old pathologists called scrofula with tuberculosis. Opportunities for infection and inoculation are so ample that it is not necessary to assume that tuberculosis is hereditary. Inoculation may take place from milk, the sputa, and the inhalation of air containing bacilli. It is probable that different forms of bacteria seek different tissues in which their life cycle and multiplication can be best accomplished, as the spirochæte Obermeieri in the blood, and cocci of diphtheria in the mucous membranes.

There has been a return of pathologists to the old doctrine of unity as expounded by Laënnec. Tuberculosis is now regarded by them as an infectious disease, characterized by nodules, produced by the irritating agents, the specific bacilli. That these are the real cause of tuberculosis, is proved by vaccination from a pure culture. In fourteen days or three weeks tubercle nodules can be found containing bacilli. These results are certain and uniform.

These experiments have been performed in all parts of the civilized world with the same results. Jacobi, years ago, observed a dog which became tuberculous from eating the sputa of his master. Last winter I examined an applicant for pension who had a considerable deposit in the left pulmonary apex. His wife, then free from this disease, has since been infected, and died of phthisis. I know of a family where five children have died of consumption, and the infection can be traced from child to child, and yet the parents and grandparents are free from this disease. Age and lessened opportunity for infection probably account for their exemption.

Rapid bodily development and change predispose to infection. John W., aged thirteen, presents the following interesting history of his infection: About fifteen years ago the wife of the boy's step-father contracted consumption from nursing her husband's brother, the subject of that disease. Two years after the death of the brother the man lost his first child from

tubercular disease, and three years later a second child from the same cause.

These children were infected by their mother. About four years after the death of the last child, the mother died of consumption. Anna, a third child, probably infected by her mother, died last February. John W. is a step-brother of this last child, and in no way related to her by blood. He was infected by Anna, his playmate. He virtually slept in the same room with her during her illness, as the door stood open between their badly ventilated rooms. The step-father also has consumption. In a family where the grandmother died at the age of ninety, of an intra-capsular fracture of the hip-joint, grandfather at seventy-five, of acute croupous pneumonia, the mother, of Bright's disease, at sixty-five, and the father, of cirrhosis of the liver with hydro-peritoneum, yet of the children of these parents and grandparents four have died of phthisis; in one the disease is far advanced, a sister has ozena scrofulosa, and a brother has a cough. None of the cousins of these children have died of this disease, and the uncles and aunts are all living as far as I can learn.

Joseph L. died on the 16th of June, 1883, after being confined to his room over a year with pulmonary tuberculosis. The house contained two rooms. His family consisted of a wife and three children at home, and two married children who did not live at home. Of the family living at home, his wife died suddenly shortly after his death, two children who were constant attendants upon their father are tuberculous; the condition of the third, a younger daughter, is unknown. The children who did not live at home continue in good health; each is the parent of three children who are vigorous and robust.

B. married a man with consumption. She was a member of a family of eight children, who are now all well advanced in years and enjoy excellent health. She had six children, all of whom died of tubercular disease. The mother was infected by her husband, and died after resisting the ravages of the disease many years.

A family moved into a house, following a family of consumptives, and four boys were infected. The parents are living and free from consumption. C. nursed her husband, ill of consumption, for two years. Symptoms of the disease developed in her a short time before his death. The physical signs are well marked. She has had hemorrhages, and bacilli are found in her sputa. Where one case of tuberculosis has occurred in a family others may be expected to follow, usually the nurse, unless careful ventilation and cleanliness can be secured, and the patient is given a separate apartment. To place these patients in a hospital with other consumptives is equivalent to a medical execution. The importance of ventilation can easily be proved if we take the pains to test the rapidity that air currents carry bacilli out of the sick-room. It can easily be shown that this is in exact proportion to the rapidity of the change of the air in the apartment. We have all observed how a patient grows steadily worse when in consequence of weather changes he is unable to have his proper supply of fresh air.

Phthisis begins in those parts of the lungs where ventilation is mechanically most difficult, and where, for this reason, the lodgment of infecting material is favored. The apices are usually earliest diseased. Here the respiratory movement is less free than over other portions of the lungs. This is due to the anatomy of the thorax and the weight of the arms.

The blood-supply of the apices is less abundant and mechanically more difficult than to other portions of the lungs. The secretions of this part of the lung are consequently thicker, less easily moved, and furnish an excellent culture-fluid. The tubercle granule has its seat primarily where the walls of the smallest bronchioles enter the acini in the connective tissue of the septa, where the exit from the three alveoli is narrowed to one third of a millimeter. Mechanically and histologically this is the most favorable point for the entrance of the infecting agents.

Rindfleisch, long before the discovery of Koch, said: "I believe that in the catarrhal secretions of a scrofulous person is contained the tubercular poison, which becomes inoculated in

the edges and corners of the narrowest portions of the bronchi." Now we know that the tubercular poison is a parasite, and here, in hardened and colored sections, I have found the bacillus tuberculosis. Every thing which favors the entrance and retention of the bacillus increases the liability of infection. Catarrhs, overcrowding, imperfect development of the respiratory muscles, the so-called paralytic thorax, deformities, imperfect ventilation, diminished respiratory movement following pleurisy, and especially the bad air of school-rooms, where some of the children may have disease of the lungs, predispose to infection. I know of several instances where infection has followed pleurisy, and the disease made its first appearance on the side bound down by adhesions. Only last week I examined a case of beginning phthisis where the deposit was in the right apex, and the man had suffered from pleurisy on the same side several years ago. Here the elasticity of the lung can not fairly act upon the air-volume, the secretions are retained, bacilli gain entrance, lung ventilation is imperfect, and infection takes place.

The mortality of consumption increases with the density of population. It is greater in cities than in the country. In overcrowded tenement houses the death-rate from this cause is high. The relation of the density of population to the death-rate from consumption is a vast experiment showing its infectious nature. The facts are grandly significant, because the experiment is world-wide, including every climate and people under the sun.

SPENCER, IND.

ON EXCISION OF INTERNAL HEMORRHOIDS.*

BY E. E. GLOVER, M. D.

I but repeat what is well known when I state that few operations in surgery have been at one time and another more thoroughly condemned than that of excision of internal hemorrhoids. And most justly too; for as practiced when it was first devised, alike on every variety of hemorrhoidal tumor, the death-rate from hemorrhage alone was something enormous, and surgeons were glad to turn to other and simpler methods of treating these tumors.

The foregoing remarks, however, should be understood to apply to the operation as it was practiced a good many years back. Within late years the operation has been revived owing, no doubt, largely to a modified form of excision practiced by Henry Lee, of London, in 1848. But it owes perhaps its greatest impetus more directly to Mr. Allingham, the distinguished rectal surgeon of St. Mark's Hospital, London. It is proper to say, however, in this connection, that our improved knowledge of what cases are suitable for excision, the improvements in the operation itself, no less than our improved means for arresting hemorrhage both during and after the operation, have done more than all else to stamp the method as a legitimate and, under proper conditions, a most valuable surgical procedure.

It so happens that no one method of treating hemorrhoids is entirely applicable to every case of the disease. Sometimes one, sometimes another of the various operations in vogue is best, now in this case, now in that, and the choice of the procedure, must at last turn upon the character of the tumor, the condition of the patient, and other causes needless to mention here.

Excision is applicable to but a limited number of cases, and these without exception in cases where the tumors are small,

*Read before the Indiana State Medical Society, May 13, 1885.

accessible, and not above four in number. In this class of cases the advantages which the operation offers are to be found in its seeming freedom from all danger to life; in the slight constitutional disturbance which it excites; in the very quick recovery which it almost uniformly insures, the patient as a rule being cured in about half the time required by any other method; in its being comparatively painless, owing to the temporary paralysis of the sphincter muscles and the removal of the tumors; in, finally, that the operation is not, as in some other methods, ever followed by stricture.

The objections to this procedure, as stated by its opponents, would seem to be that it requires an anesthetic, more care and skill than hemorrhoidal operations in general, and that there is danger from hemorrhage. For my own part, I think anesthesia a great aid in the large majority of rectal operations. The operation itself, though it may seem somewhat complicated, is in reality simple enough. As to the latter objection, the means used to control bleeding, namely, torsion, heat, and the use of styptics, would seem to insure all reasonable safety. An insidious hemorrhage into the rectum to a serious extent would be an impossibility, as with a dilated sphincter and the parts lightly packed with styptic cotton the bleeding would show itself externally. If an accidental copious hemorrhage should occur, it could be *positively* controlled by the use of the cautery or by packing the rectum with a bell-shaped sponge and cotton-wool. It is the opinion of many excellent rectal surgeons that a hemorrhage into the rectum from an operation, which can not be controlled by the cautery or packing, is a thing excessively rare.

The operation is done as follows: The patient's bowels being well emptied, he is placed upon a suitable table and thorougly etherized. With the fingers or thumbs the anal sphincters are now gently but fully dilated. Van Buren's rectal retractor or Sims' vaginal speculum is then carried into the gut — a depressor may be added if necessary — whereby the seat of the piles is fully exposed. The tumor is then seized with a tenaculum forceps and drawn well down,

when the base is embraced with the blades of a Smith's hemorrhoidal clamp,* just sufficient pressure being made to prevent the instrument slipping and to control in some degree the hemorrhage, without exercising such force as to bruise the parts and thereby cause a slough. In this way any considerable hemorrhage at this stage is impossible. The tumor is now cut off with either the knife or scissors, near the clamp—being careful to leave sufficient stump to prevent its slipping through the blades of the instrument—and all bleeding vessels twisted. If none bleed at the moment, open the blades of the clamp somewhat, when usually one or two vessels will be found to spout. Subject these to immediate torsion. This proving effectual, remove the clamp and apply small sponges wrung out of hot water to the parts, whereby any oozing is usually readily checked. Treat other piles that may be present in a similar way. When all hemorrhage has ceased,† wet a wad of cotton — to which it is well to previously attach a strong thread—in a solution of tannic acid—one ounce tannin in one ounce of water—and carry it as high into the gut as the seat of the tumor. Finally give anopiate to prevent too early early movement of the bowels.

In the seventy cases of excision reported by Mr. Allingham, no recurrent hemorrhage occurred, but little pain was experienced, and nearly all of his patients were absolutely well by the sixth day, Mr. Allingham saying that he means by this that the wounds were all soundly healed by that time.

My own limited observation corroborates the larger experience of the British surgeon. I have considered some of my patients as being "absolutely well" on the fifth day; others were out and able to attend to business in three or four days.

*Mr. Allingham does not use the clamp in his operations, but trusts the vulsellum to hold the stump.

†In illustration of how readily bleeding from a hemorrhoidal vessel may sometimes be controlled, I may mention that in removing a large tumor with the clamp and actual cautery, the iron being over hot, the end of the vessel was burned off; and as a result did not close, but bled at once and freely. I seized the vessel, and after compressing it with the forceps for the space of but two minutes the hemorrhage entirely ceased.

The following report of a case occurring in my practice will serve as an example of the class of patients in which I think this operation has especial advantages:

F. H. had two small hemorrhoids which prolapsed after each stool, bled freely, and were returned with difficulty and much suffering. He desired an operation, but stated that it was impossible to leave his business for any length of time. I excised his piles after business hours one Friday, and on the following Monday—or within sixty hours, during which he was more comfortable than he had been for a year—he returned to his duties, and on the day after did an unusual amount of work without inconvenience. On Wednesday, five days after the operation, the wounds were entirely healed.

I am inclined to believe that, as our experience in the operation of excision widens, it will be found applicable to yet other varieties of hemorrhoids than the one I have named.

Mr. Allingham is of the opinion that numerous cases are amenable to this treatment, and he regards excision as one of our best operations.

TERRE HAUTE, IND.

A LETTER FROM LONDON.—A LARGE NEVUS.*

The growth occurred in a child four months old. When Sir Joseph Lister presented the case in the operating theater of the hospital, he stated that the mother of the child said that at birth the nevus was a mere speck. In the short period since the child's birth it had grown to the size of three inches both in breadth and length. It was situated behind the angle of the jaw on the right side, covering the entire sterno-cleido-mastoid to within half an inch of the scapula. The extremely rapid growth of the tumor called, in the opinion of Sir Joseph Lister,

*Dr. W. B. Meany, who is now visiting the London Hospitals, kindly sends the accompanying interesting note.—EDITOR AMERICAN PRACTITIONER.

for surgical interference, though, as he stated, he could not feel certain that it could be successfully removed. Further delay, however, if the nevus continued to increase in size as it had done, he said would soon prove fatal. The patient being anesthetized, the parts about the growth were cleanly shaven, and a towel, wrung out of carbolized water, on which the instruments were placed, was put handy. The operator now made an incision into the healthy tissues about four lines beyond the margin of the nevus and encircling the entire growth. The incision reached to the fascia. The integument was picked up by forceps and the fingers, and the nevus gradually torn from its attachments, the knife being used to divide the tissues when their resistance proved too great for the fingers. The arteries supplying the nevus were ligated as they were exposed, and then cut by scissors. When the growth had been entirely removed, there was left an opening so large that the anterior triangle and the greater portion of the posterior triangle of the neck were exposed.

All bleeding vessels were "picked up" with artery forceps until the hemorrhage ceased, and each vessel was ligated with silk-worm-gut sutures. Not more than two teaspoonfuls of blood were lost. The wound was cleansed by sponges and carbolized water. Its edges were approximated by sutures of silver wire introduced in such manner as to cross each other in the shape of the letter X. This necessarily left an opening in the central part of the wound, and at each of its angles. Further approximation of the parts was secured by passing silk-worm-gut sutures between those of the wire. Carbolized horse-hair was introduced through such openings as remained, in order to secure drainage. Carbolized gauze and other carbolized materials were placed over the wound and the whole secured by a roller bandage and an elastic linen band applied around the edges of the dressing.

An idea may be formed of the great extent of the wound after the removal of the nevus, by stating that nineteen large silver wire sutures were required to bring the integument into

apposition. There were fifteen vessels ligated during the operation, silk-worm gut being used. The operator observed full antiseptic precautions throughout and occupied one hour and fifteen minutes in his work.

For some days previous to the operation the tumor had been injected with a solution of carbolic acid. After the growth had been remoyed it was examined to see what changes, if any, had been effected in its structure by the acid. There was found simply a slight change of color in a few places, and a small degree of hardening or condensation of tissue. The nevus measured one and a half inches at its center.

Sir Joseph Lister stated that there was little danger of hemorrhage in removing a nevus if the incisions were made some distance from its margin into the healthy integument.

The child was seen by the writer two hours after the operation and had fully rallied from the surgical interference.

Sir Joseph Lister brought to the notice of the writer a patient operated upon (full Listerism being observed) seven days ago for cancer of the breast—the last operation being the second performed on the patient. The dressings were now removed for the first time. The wound had healed by first intention. When the sutures were removed they were found free from all trace of pus. The patient had had no fever.

Reviews.

Micro-Chemistry of Poisons, including their Physiological, Pathological, and Legal Relations; with an appendix on the Detection and Microscopic Discrimination of Blood. Adapted to the use of the Medical Jurist, Physician, and General Chemist. By THEODORE G. WORMLEY, M. D., Ph. D., LL. D., Professor of Chemistry and Toxicology in the Medical Department of the University of Pennsylvania. With ninety-six illustrations upon steel. Second edition. Philadelphia: J. B. Lippincott Company. 1885. Pp. 784.

Eighteen years ago Prof. Wormley surprised and delighted the doctors, jurists, and chemists, by the publication of his unique and superb work on the Micro-Chemistry of Poisons, and now he entitles himself to further thanks by the preparation of a second edition, embodying the fruits of his labor in the same field during the intervening period, conveyed in some modification of the former text and the addition of one hundred and sixteen pages of new matter. The enlargement consists, as he recites in his preface, chiefly of fresh illustrative cases, mostly American, and of new tests and methods of recovery of poisons from organic mixtures, and also by the addition of an entirely new chapter on gelseminum poisoning, and an appendix on the nature, detection, and microscopic discrimination of blood.

The nomenclature of the first edition has been revised and made to conform to the more recent views of chemists, but after due consideration the author retains the English system of weights for indicating the behavior of given quantities of the different poisons with reagents, because this system is much more familiar to lawyers likely to consult the work. If this were the only reason for retaining the old style, it need not have been controlling, for Prof. Wormley may rest well assured that whenever it becomes necessary for a lawyer to understand changes of this nature he does so quite readily. However, the author gives

a facile rule for changing the English system of weights in this relation into the metric, so that all classes of readers will find convenience.

Such a work as this meets with its highest appreciation by chemists devoted to the line of inquiry it covers, and to jurists who have legal investigations to conduct in criminal prosecutions, but there is a mine of valuable information in it for the general student and practitioner as well. True, it treats only of poisons; but poisons are among our most important remedial agents when administered in appropriate doses. In this edition of Prof. Wormley's work he treats of over thirty separate substances as poisons, every one of which is a medicine in more or less common use. Part First of the book concerns Inorganic Poisons, and includes the alkalies, potash, soda, and ammonia; the mineral acids, sulphuric, nitric, and hydrochloric; and oxalic and hydrocyanic acids, and phosphorus; antimony, arsenic, and a number of other metals; while Part Second considers Vegetable Poisons, and covers the whole catalogue of ordinary poisonous drugs of vegetable origin.

Touching each individual of this list, the author goes into an exact detail of things concerning it; as, for example, about nicotine, we have its history, preparation, symptoms, period when fatal, fatal quantities, treatment, post-mortem appearances, general chemical nature, etc., and the consideration given under each head is of that exact nature demanded for legal purposes, and is, of course, the most thorough that can be consulted by the physician. And it is just this fullness of information that would make the work valuable to the student and general practitioner, not only that he should be fully posted in regard to these substances as poisons, but because he could not understand them as poisons without at the same time knowing all about them as medicines. Prof. Wormley's work would, therefore, be a valuable acquisition to the practical working library of every intelligent practitioner of medicine in the land.

New illustrations have been added to this second edition, and now consist of sixteen wood-cuts, mostly representing chemical

apparatus and processes, a chromo-lithograph of blood-spectra, as a frontispiece, and at the end of the volume sixteen steel-plate engravings, presenting ninety-six illustrations of the microscopic appearance of poisons under the action of reagents. All these illustrations were drawn from nature and engraved by the accomplished wife of the author, and the later ones drawn directly on steel by his daughter, Mrs. J. Marshall, including the plate showing the apparent size of the red corpuscles of the blood of six different mammals under a power of 1,150 diameters.

The volume is handsomely printed and substantially bound.

J. F. H.

The Oleates: An Investigation into their Nature and Action. By JOHN V. SHOEMAKER, A. M., M. D., Lecturer on Dermatology at the Jefferson Medical College, Physician to the Philadelphia Hospital for Skin Diseases; Member of the Pennsylvania State Medical Society, the Minnesota State Medical Society, the American Medical Association, the American Academy of Medicine, the British Medical Association, Fellow of the Medical Society of London, etc. Philadelphia: F. A. Davis, Att'y. 1885. Pp. 121.

Oleates are not as familiar to the profession as they deserve to be. In 1863 Attfield published his "Method of Dissolving Alkaloids in Oils," but it was not until 1872, after Mr. John Marshall published his paper showing the facility with which mercury could be administered epidermically when applied as an oleate, that the practicability of using an extensive line of these preparations attracted professional attention, and even since that event the testimony in their behalf has been equivocal. Quite recently, however, the oleates have been receiving more discriminating consideration, and Dr. Shoemaker has been among the most prominent investigators into exact methods of preparing and using these preparations. For ten years, he tells us, he has been pursuing these studies, and since 1879 has been giving the result of his labors to the profession through papers presented to Philadelphia County Medical Society, Pennsylvania

State Medical Society, American Medical Association, British Medical Association, and the International Medical Congress at Copenhagen, in 1884. This little volume is a *résumé* of the essential points in these several communications, and contains, therefore, his latest and best thoughts upon the nature and application of oleates as remedial agents.

Dr. Shoemaker details his experiments on rabbits with the oleates, to determine whether the drugs thus administered produce the usual constitutional effects of the bases entering into their composition. After trying the oleates of quinia, mercury, copper, zinc, strychnia, and aconitia, he arrives at the conclusion that oleates do not produce the constitutional effects of their bases, holding, in fact, that they do not "penetrate deeper than the epidermis and its continuation into the glands and follicles. . . . All the suppositions and hypotheses, setting forth how the oleates were absorbed and enter into the blood at once, are fallacious, and have not been confirmed by practical results, the most powerful of them *scarcely showing any of their physiological effects.*"* And Dr. S. uses some rather sharp language in expressing his views of the insufficiency of the evidence on which those who hold other conclusions rests; nevertheless, there does seem to be some testimony going to establish the fact that in numerous instances the oleates have produced constitutional effects in man, even though they fail to do so in rabbits. And Dr. S. inadvertently concedes some constitutional impression in the italicised words in the above quotation.

Oleic acid enters into definite chemical combination with many of the metals and alkaloids, making true chemical products and not mere mixtures; and it has been the understanding that oleic acid had a special affinity for the skin, was rapidly taken up by it and passed through into the underlying tissues, and it has been claimed that when the acid formed an oleate, *e. g.* of morphia, it carried the morphia through the skin, and the morphia produced its usual medicinal effect in the subjacent tissues, and presently, it has been asserted, was absorbed to some extent

*Italics are the Reviewer's.

by the veins or lymphatics and made its impression on the system at large. Dr. Shoemaker, while conceding this rôle for the oleate of mercury for special reasons recited, denies it as an attribute of the oleates as a class, asserting that the worst that can be done for the oleates "is to claim for them what they do not nor can not possess;" and his judgment should have weight, as he claims it rests on clinical experience and accurate experiment. Further observations will establish the truth.

Dr. Shoemaker gives a list of twenty oleates, the preparation and therapeutic application of which he details. The oleate of cocaine, of which much was expected on theoretical grounds, in his hands proved of little value, and others have confirmed his experience.

It is hoped Dr. Shoemaker's little volume will attract professional attention to a class of remedies in which there is great promise, and which have not yet secured the consideration their merits seem to demand. J. F. H.

Kirke's Hand-Book of Physiology. By W. MORRANT BAKER, F.C.R.S., Surgeon to St. Bartholomew's Hospital, and Consulting Surgeon to Evelina Hospital for Sick Children, Lecturer on Physiology at St. Bartholomew's Hospital, and late Member of the Board of Examiners of the Royal College of Surgeons, of England, and VINCENT DORMER HARRIS, M. D., London, Demonstrator of Physiology at St. Bartholomew's Hospital. Eleventh edition, with nearly five hundred illustrations. Volumes I and II, pp. 373 and 378. New York: William Wood & Company. 1885.

So rapid has been the advance of physiological knowledge for the last third of a century that a new book every two or three years, summing up this fresh information for the enlightenment of students and general practitioners, seems to be indispensable. But for this state of affairs, one might think that physicians' tables were already sufficiently weighted with works of this character. All books treating of physiology may be divided

into three classes: the first a monograph, detailing the investigations of the author in some one line of inquiry, and covering the general subject only so far as may be necessary in his judgment to illustrate and enforce his own conclusions; the second class professes to cover the whole field, but in fact treats fully only such special divisions of the entire territory as the fancy or the mental drift of the author induced him to cultivate with assiduity and success, and such work is out of balance, and therefore fails to be a satisfactory exposition of this branch of medical science for the general student; and the third class comprehends all such works as claim to make an equal and impartial presentation of all the established facts in physiology, and fulfill such claim; and they are not necessarily the work of scientists especially devoted to experimental physiological examinations, but of broad and enlightened students of physiology who, after the fullest survey of all that has been presented by others and themselves, cull the best that is known and recombine into an orderly treatise. This last is the class of books to meet the wants of the student and general practitioner, and of this class is Kirke's Hand-Book of Physiology, as arranged and completed by Mr. Baker and Dr. Harris in this eleventh edition, presented to the profession by the publishers, in the February and March, 1885, numbers of Wood's Library of Standard Medical Authors. In their preface the authors specially acknowledge their drafts upon the works of Klein, Foster, Pavy, Quain, Legg, Watney, Rosenthal, Cardial, Rauvier, Landois, and the Journal of Physiology. While this list does not include the name of an American investigator in the body of the work, American authors are frequently cited as the highest authorities on the points under consideration, as Beaumont on gastric juice, Flint on bile, and Dalton on changes in the corpus luteum.

The plan of the work not only starts with the alphabet of physiology, but begins with the first letter, by pointing out the difference between living and lifeless matter, instructing as to the difference in the growth of a crystal and a man, and then follow the distinguishing characteristics between the animal and

vegetable kingdoms. "Structural Basis of the Human Body" is the title of the second chapter, and "Structure of the Elementary Tissues," of the third chapter. Then, by a natural succession of subjects, the work is carried on to chapter xiii, on "The Kidneys and Urine," which ends the first volume.

Volume II has eight chapters and an appendix A on "The Chemical Basis of the Human Body," and appendix B on "Anatomical Weights and Measures," and "Classification of the Animal Kingdom," closes the volume. This arrangement is not that of the original work, but its practical usefulness will be apparent to all who consult this edition. Indeed the order of subjects and arrangement of matter throughout the volumes are most excellent. And, as a hand-book, the absence of all controversial argumentation on unsettled points is an additional recommendation of its value.

The illustrations can hardly be called beautiful, but they are well drawn and instructive, and this is the chief end of a picture in a work on physiology.

The make-up of the volumes is according to the order and style of the publishers in the series to which these belong, and is pleasant and attractive, and the profession is to be congratulated on having within easy reach a work of the kind with so many good qualities. J. F. H.

Quiz Compends: Surgery. By ORVILLE HORWITZ, B. S., M. D. Second edition, revised and enlarged, with sixty-two illustrations. Philadelphia: P. Blakiston, Son & Co. 1885. Price, $1.00.

The "Quiz Compends" of this house, which have been issued from time to time during the last two years, now embrace nearly the whole science of medicine. They have proved of real service to the student in helping him to prepare for examinations, and to the practitioner for ready reference in times of emergency.

The "Quiz on Surgery" is, in substance and arrangement, well worthy of the excellent companions of the series which have preceded it.

Clinic of the Month.

On Recent Advances in Abdominal Surgery.—In a clinical lecture on this subject Mr. Wheelhouse is quoted, in the British Medical Journal, as saying:

I have recently come across an ancient proverb which runs thus: "We only count our days; we ought to weigh them;" and if there was ever a time when such an aphorism could be truthfully quoted, and when the value of work done was of far greater importance than the time occupied in the doing of it, that time, at any rate so far as the profession of surgery is concerned, is the present.

There have been times in the past when great discoveries have been made, and when great minds have held sway over the surgical, as they have done over the medical world. We have had our Cheseldens, our Bells, our Hunters, our Coopers; and the lights they have left burning are burning still as brightly as ever; but there never was a time in which the general progress was so great as it is in the present day, or when so many minds were ceaselessly given to the cultivation and extension of the science and the art of surgery, with the determination to extend its range, to increase its utility, and to perfect its advances, none in which the value of the work done would weigh so heavily.

When, responding to the request of the authorities of the Yorkshire College that, in conjunction with my colleagues, I should from time to time undertake to deliver a few surgical clinical lectures, I promised to do so, the subject of the advances that have been made in abdominal surgery in recent times very naturally suggested itself to my mind as one in which I might find something to say that would prove both interesting and instructive to you, and so I selected it as one of my proposed subjects; but, when I bring myself to book and

to consider the careful arrangement of what I should like to say, I find it so impossible to compress the matter into the compass of a single lecture, that I am compelled to ask you to accept this one of to-day as an installment only, and to promise —should we be spared to meet again another year—to renew the subject, and complete it on a future occasion.

There was a time—and it is well within my recollection—when the entire domain of the peritoneum, and of every organ contained within its folds, was held to be ground sacred to the physician, and on which, except in cases of unavoidable necessity, the surgeon was forbidden to intrude.

A few operations, and only a few, were supposed to be admissible; and even in these so great was the fear of peritonitis and its results, that even they were undertaken with all the dread which the presence of the greatest surgical danger could inspire. Moreover, the very few that were considered to be permissible, and permissible only because compulsory, were done in a manner which, in the present day, we should regard as rough and uncouth, and as savoring but little of scientific surgery. Thus, from all time it has been occasionally necessary to relieve an abdomen distended with fluid by paracentesis; but the paracentesis of that day was as unlike the operation as now performed as it is well possible to be; and it is no wonder that a proceeding even as simple as that was considered to be should have been regarded as attended by considerable risk.

Deferred to the last possible moment, until not only the abdominal walls were stretched to almost unendurable tension, and the diaphragm from similar pressure was almost disabled, we can not wonder that fatal syncope was dreaded, or that it should sometimes occur. Many is the patient that I have seen "prepared" for the operation thus:

Seated in an arm-chair, and so surrounded by pillows that support should be afforded in all directions, a large towel was passed around the body to support the diaphragm, and the patient being fortified by a stimulant, an enormous trocar was plunged into the abdomen, its size being regarded as of little or

no moment, and the whole of the fluid was rapidly withdrawn. Occasionally the stream would be arrested to allow the abdominal walls and diaphragm to contract, and to prevent faintness, and firm pressure was kept up all the time by means of the towel.

At that time the distinction drawn between general and encysted dropsy was somewhat hazy; ascites and ovarian dropsy were not differentiated as they are in the present day; and consequently, seeing that the fluid to be withdrawn might, as it then seemed by chance, prove either very thin or so thick as only to be capable of running through a cannula of large caliber, such an instrument as this was generally chosen for its evacuation.

What wonder that we should be taught to watch our patient carefully, and by noting the state of the pulse and the action of the heart, to be on the alert to prevent the occurrence of syncope; or that, by keeping steady pressure on the towel, we should seek to support the diaphragm from under which so large a weight of fluid was being rapidly withdrawn!

The varying character of the fluid, and the varying amount of it which resulted from these operations, could not fail to strike even the least observant operators; and while, in some such operations, it was noted as being clear, transparent, and largely abundant, in others it was seen to be so thick and glutinous that it failed to run freely even through cannulæ so large as those I have shown you; and even Sir Astley Cooper has placed one case of "dry tapping" which occurred to himself on record. It can hardly, then, be wondered at that facts such as these should lead men of observation to seek for the true pathological explanation of such differences as these.

In the cases of men, it was noted that the fluid was almost invariably abundant and thin, and it was only in female cases that the difficulties of withdrawal from unusual thickness or tenacity were observed.

Post-mortem examinations gradually revealed the cause of these differences, and demonstrated that, while in males the

ascites was almost, if not actually, always general, in women it was most frequently encysted, and in a majority of cases confined to diseased conditions, not of the peritoneum, but of the ovaries, or certain of their appendages.

Then there slowly dawned upon the minds of men the possibility of more perfect differentiation in their cases, and before many years were passed it was known that such diagnoses could be made with tolerable clearness and accuracy. Then the greater and more vital question began to be asked, could encysted dropsy be more effectually dealt with than by simply tapping and evacuation? At this point, and ranging itself around this question, there arose a great crisis in surgical science; and though to you who almost every day of your lives see operations performed such as even in my early days were not as much as thought of, to those of us who are able to remember it, this crisis was intensely interesting and exciting. Reared and educated in the ancient belief of the sacredness of the peritoneum, we heard of, and we listened almost with bated breath to the recital of cases in which the abdomen had been opened, and such tumors had been emptied and removed! And we wondered at the recklessness of those by whom such things had been done! It might well happen, it was argued, that here and there a solitary case might struggle through, and might in the end recover; but could such recoveries even be looked upon as likely to become general? As a fact, only few such cases did ever struggle through, and what reasonable prospect was there that such recoveries would ever become numerous?

In any very arduous undertaking or exploration, it is well that a halt should occasionally be called, and that, with an eye to careful scrutiny, a searching glance should be thrown not only over all that lies yet ahead of the explorer, but also over the way that has been traversed, and over the difficulties that have been overcome. In the science of abdominal surgery, such a crisis as this had now clearly arisen. The way that had been covered had been long, but it had been very fruitless, and

the prospect opened up was very tempting; but it was filled to overflowing with difficulties and danger.

We had seen heroism under human suffering carried, as it was thought, to the highest pitch of endurance; and the question was asked, shall I say querulously, Is it possible that the abdomen can be laid open, its contents handled and examined, the peritoneum be freely explored, and that the subject of such barbarities should yet live? By the majority such possibility was denied, and by men of the very highest rank in the surgical world such operations were condemned and were pronounced unjustifiable; by some such, it was even declared that the man who dared to undertake them was a murderer! Nevertheless, such things were done, and were now and then successfully done, and surgery was not found wanting in its heroes who were ready to do all and to dare all in its cause.

England can not lay claim to the origination of the operation of ovariotomy; for this, the greatest boon that our profession has ever given to the world, and the gift by which the greatest number of useful lives has been saved, was the gift of an American country practitioner, who undertook it in the simple performance of his daily routine, and who thought so little of his achievement that for a long time the world knew nothing of it.

The idea of its performance was suggested to his mind while in England; and if you desire to read an account of him and of his discovery, you will find it given by Sir Spencer Wells in his treatise on Ovarian Diseases, and may learn how it was suggested by the eloquence of his teacher, John Bell. "It is said of him by his biographer (Dr. Gross) that he was enraptured by the eloquence of his teacher, and the lessons which he imbibed were not lost upon him after his return to his native country. Bell is said to have dwelt with peculiar force and pathos upon the hopeless character of ovarian tumors when left alone, and on the practicability of removing them by operation." (Diseases of the Ovaries, by T. Spencer Wells, p. 294.) So the seed sown in those eloquent lectures, of so long ago as 1794, has grown

into the strong and vigorous tree of the ovariotomy of to-day. Naturally, in its earlier years, it was but a tiny and slow growing plant; and if it had not been for other most happy discoveries, the chiefest of which was the discovery of anesthetics, it might not even yet have attained its present noble proportions. By anesthesia it has been robbed, not only of its first and greatest horror, the ordeal of the operation itself, and also of much of the nervous shock inseparable from the performance of such an operation, but from many of the dangers inherent in it also, and only to be safely overcome by an expenditure of time which, without the aid of insensibility, could not be endured.

Pleasant as it would be, and instructive too, if time were not an object, to linger over the contemplation of these early days of progress in abdominal surgery, I must not let the temptation overcome me; but simply pointing out to you that it is to the patient, persevering, and indomitable courage of such men as Dr. Clay, of Manchester, Sir Spencer Wells, of London, and Dr. Keith, of Edinburgh, that we owe the great lesson first taught and demonstrated by the practice of ovariotomy, and which it is my object in this lecture to impress upon you: that, with reasonable care, prudence, gentleness, and patience, operations involving even the dreaded peritoneum may be safely undertaken and carried to a successful issue.

Look for a moment or two at the proof of this assertion; and let me imagine that you put to me these broad questions:

To what do you attribute the exceeding difference in the results of the ovariotomies of early, as compared with those of later days?

Is all due simply to increased gentleness, cleanliness, and care?

No, certainly not.

Much, very much, has come of accumulated experience, and much has, also, to be set down to the effects of another of the great discoveries of the age, the discovery of antisepticism in surgery.

In the earlier days of this great advance, as I have said, a

few, and only a few, cases struggled through to a successful issue; but, year by year, the successes became more numerous and the deaths fewer, until to-day I am able to point to such a table as this which I hold in my hand, which exhibits the results of the operations performed by Dr. Keith, in the Royal Infirmary at Edinburgh during three years, in which, of seventy-nine operations only five had resulted in failure.

It is very reasonable that you should seek to ascertain how such wonderful results have been brought about, and how an operation, pronounced in its earlier days to be "unjustifiable," should have been brought to such pre-eminent perfection.

Unquestionably, some part of the success may be attributed to the care exercised in the selection of the cases to be submitted to operation; but I venture to assert, not nearly so much as is generally supposed. Cases which in the early days would, without hesitation, have been put aside as unfit for surgical interference, are now successfully operated on almost every day.

"Adhesions," for instance, or the fear of adhesions between the tumor and its surroundings were formerly ranked among the evils most of all to be dreaded. Now they are thought comparatively little of, and, when they are found to exist, are for the most part overcome without very great difficulty.

I remember being present, somewhere about 1846 or 1847, at a consultaion in which the supposed existence of adhesions was held by the then most celebrated operator of the day, Dr. Clay, of Manchester, to be a fatal objection to an operation, and in which, when death occurred some months afterward, no trace of an adhesion was to be found; and I have myself operated, in this hospital, not a very long time ago, upon a case in which the tumor was so closely adherent to every thing around it that it took an inordinate length of time to dissect carefully through all the adhesions and to liberate it from the pelvis, and which nevertheless recovered.

In former years this case would certainly have died, even if it had been completed, because the effect of care in the separa-

tion of adhesions, and in the minute tying of all bleeding points, was not sufficiently appreciated or relied upon, and the after-decomposition of the blood effused and allowed to remain in the pelvis was not sufficiently considered.

Now this is one of the points which I put down as a combination of care with the antiseptic principle; for by the antiseptic principle I do not mean just the use of the Listerian spray and cleanliness of instruments, but that, combined with the knowledge that, if decomposable matter be left in the body, whether in the form of blood or of serum, or of any extraneous animal fluid, it may by putrescence become the most powerful factor of danger, and may be sufficient to outweight all other care that may have been expended upon the case. This, without doubt, in my mind at least, was the common cause of a great many of the early deaths; and what should have been regarded as septicemia was put down to the liability of the peritoneum to inflammation.

Another way also in which this liability to septic poisoning was incurred arose from the method adopted in the treatment of the pedicle. This, indeed, for many years seemed to be the crucial point around which all our difficulties clustered, and how best to deal with the pedicle was the great question of the day.

At first we were in the habit of fixing it, with a stout hare-lip pin in the wound, between the walls of the abdominal incision, and our cases generally did well for the first few days; but no one who has not passed through the experience can appreciate the dread with which we used to anticipate the withdrawal of that pin and the fall of the stump of the pedicle into the pelvis. That was almost invariably the signal for commencing danger, and it was dreaded accordingly.

That it was to be attributed to the mere presence of the stump itself in the peritoneum can not be maintained, though, at the time, we used to think so; for we now always drop the stump in from the beginning, and rarely have reason to attribute any evil to our doing so. No, we kept the stump out until it

became septic, and then, when it fell into the pelvis, it lighted up further mischief, which only too often ended in fatal consequences.

Next followed the clamp in a great variety of forms, and this, by keeping the pedicle so fixed in the wound that it became adherent to it and did not slip into the interior, gave better but by no means perfect results; and thus, little by little, the study of the treatment of the pedicle and of the doctrine of septic poisoning together led us to a truer appreciation of the real danger that lay in our path, and to the exercise of the infinitesimal care, which you now see taken in every case, to leave the peritoneum free from all possibility of avoidable and especially of septic mischief when we closed the wound.

Another method of dealing with the pedicle, which was extensively followed at one time, and which is even yet apparently in favor with Dr. Keith, of Edinburgh, was its treatment by the cautery. In following this method, the pedicle is seized by a clamp, and, when firmly secured, the tumor is separated by dividing it very slowly with the actual cautery. The whole of the divided surface is then carefully seared, and if, when it is released from the clamp, it show no bleeding point it is dropped into the pelvis and no more is seen of it; if oozing points be seen, they are to be secured before the seared end is lost sight of.

The object of this method of treatment was, and is, clearly twofold; the first aim being to get safely rid of it from the first, before it has had time to become septic; and the second, to do so without the use of extraneous material in the form of ligatures around it which must be dropped with it into the body. This again had, for many months, been a fertile source of danger with us; and when I remember the amount of whipcord, China silk, and other absorbent material with which it was considered necessary to tie it, I really wonder that any case was able to recover. Then, though the cautery stood us in good stead for a long time, it in its turn failed us in a few cases; and by post-mortem examination we learned that death had been caused by secondary hemorrhage from the stump. Hence we were driven

back upon the ligature in some form, and so far, for many years, we have depended on a single thickness of silk strong enough to bear a sufficient strain, and thoroughly carbolized beforehand.

With this, I feel that I have reached the acme of safety at present known with regard to the treatment of the pedicle; and when, in removing such a tumor, I have thus secured it, I drop it with faith into its resting place, and I can not recall to mind a single case in which I think I can fairly attribute a subsequent death to its presence there. Perfectly aseptic to begin with, it does no poisonous harm; imbedded, as it very soon becomes, in effused lymph, it does no mechanical mischief; and the ligature, being itself an animal substance, is presently entirely removed by absorption, and ultimately no traces of it can be found.

Another fertile source of danger has been found to lurk in the use of sponges, concerning the purity of which it has been possible to entertain a doubt; and I mention this only to justify me in reiterating my belief that a fatal issue, when it arose, more frequently did so from septic than from inflammatory influences; or was at any rate more likely to have been initiated by septic than by inflammatory causes. For many years I have made it, when it has been possible to do so, an inflexible rule never to use a sponge twice over for any surgical operation: and the rule which I apply to my sponges I also apply, as far as I can possibly do so, to all my instruments, feeling with regard to them that the least failure in the most scrupulous cleanliness may suffice to outweigh all the care I may otherwise exercise in the performance of any operation.

Such instruments as I can not have new for every operation I have freshly cleansed by my cutler, and as perfectly carbolized as possible; and such as I can renew for each operation I do, and especially those most unsafe ones, my needles.

Picture to yourselves the mortification of seeing an ovarian operation perfectly performed, uncomplicated by any untoward occurrence, and in every particular promising success, but brought suddenly to grief by a suppuration commencing in

your stitch-holes, and spreading from them to the interior of the wound. This has happened to myself, and I feel confident that I have seen it happen in the practice of others; and I now, therefore, make it an invariable rule, in any case in which I desire union "by first intention," never to use a needle which has been used before. Its cleansing, with the very best intention in the world may nevertheless have been imperfect.

Now all this is what I mean when I speak of "antiseptic surgery." Some surgeons there are who profess not to believe in the value of antiseptics, and who hold that, by strict cleanliness, all the advantages claimed for antiseptics may be secured. This very cleanliness itself is one form of antisepsis, and when aided by a thorough use of germicides, such as you see practiced in this hospital, will go far toward insuring success, which I venture to assert is unattainable without them.

In making this review of ovarian surgery, I have been guided by my desire to make clear, in the first place, my argument that, provided due care be exercised, there is no more special danger in attacking diseases which necessitate the exposure and opening of the peritoneum than of any other of the more delicate structures of the body; and secondly, that it follows, as a consequence of this knowledge, that many diseases formerly deemed wholly beyond the power of surgery are now almost daily successfully dealt with by the surgeon.

Thus the ovaries are not unfrequently removed for diseases other than ovarian dropsy. These organs are, unfortunately, liable to many other conditions, which, if not equally burdensome and unsightly, are even more painful and exhausting, and which by general consent of surgical opinion call equally for their removal. They may be so afflicted with neuralgia as to render life wholly unendurable. Atrophy, indurations, tubercular and malignant degenerations, and adhesions may, in another way, induce such conditions as may render their removal the only price at which ordinary comfort and freedom from pain can be purchased, or by which otherwise uncontrollable hemorrhage from the uterus can be commanded; and thus it may

become a simple duty to remove them—a duty from which no conscientious surgeon of the present day will shrink.

In dealing with these organs, and with the uterus, we have the comfort of knowing that they are organs not essential nor even necessary to life. They perform no functions the loss of which can endanger the stability of the future health of the patient; and their loss, supposing their removal to be recovered from, is a loss not necessarily grievously felt by the patient, either at the cost of future suffering or even discomfort. And of the uterus itself the same may be said; and, as a natural consequence of our increasing boldness in dealing with the peritoneum, very many uterine operations, and even the entire removal of that organ also, are now considered well within the range of available and justifiable surgery.

Uterine fibromata are now—I ought not as yet to say often, but, at any rate, occasionally—exposed by abdominal section, shelled out from their bed in the uterine walls, and the cavities from which they have been displaced so closed as to render recovery not only possible, but highly probable; and, unless I am mistaken, you have within very recent times had an opportunity to see such an operation performed and brought to a successful issue.

Even cancer of the uterus, that terrible scourge of feminine nature, hitherto so intractable and so universally fatal, is to some extent in these days amenable to the knife of the surgeon, and will probably, as passing years enlarge the surgeon's knowledge, come more and more under his control.

As yet, the operations for the removal of the uterus and its appendages *en masse* have not been what can be called numerous; but such as have been performed have been attended by a reasonable amount of success; and, as it has been with ovariotomy, so, I doubt not, it will be with hysterectomy; that increasing knowledge, increasing appliances, and increasing surgical experience and skill, will bring the operation in coming years into greater acceptability and to greater and more successful perfection.

Thus it may safely be asserted that the victory which has been won by the patient, the enduring, unquenchable courage of the ovariotomists, has spread over territory to which even they in the early days of the struggle never looked; has brought the whole domain of the interior of the pelvis under their sway, and has enabled the surgeon to extend his operations also into unexpected regions.

Let me illustrate this by a few words on the subject of the operation of gastrostomy. Even to such of you as have only commenced the study of surgery in very recent years, this operation has come as a novelty, and yet it is one which has become quickly and firmly established.

I know no form of lingering agony which can be greater in intensity than that slow process of starvation which follows not unfrequently upon malignant diseases of the tongue, pharynx, esophagus, or cardiac orifice of the stomach; and yet, till within times so recent that almost the youngest of you can remember them, we have been powerless to help such unfortunate sufferers, or to assuage the consuming hunger and thirst by which life is made ceaseless torture to them.

Since, however, we have gained more confidence in attacking the peritoneum, we have learned that an artificial opening may be made into the stomach without any very serious risk; and that, through such an opening, food already peptonized, and otherwise so far chemically disintegrated as to be ready for admixture with the duodenal secretions and for subsequent absorption, may be introduced, so that actual death by starvation may in such cases be averted.

It is not within my province in these lectures to attempt to describe to you how the various operations to which I point your attention are performed—that is the province of your systematic teachers; my object is to indicate the principles upon which new operations have been founded and introduced, and, in a very humble but judicial spirit, to endeavor to place before your minds the views concerning them which have become settled convictions in my own.

Upon this subject of gastrostomy I entertain no doubt, and I have as little that, when its full benefits come to be appreciated as they deserve, it will be much more frequently resorted to than it has been, and that, instead of there being only one Alexis St. Martin in the world, fistulous openings into the stomach will have become so numerous that they will cease to present features even of novelty; and that patients, otherwise condemned to a most painful and lingering death by mechanical obstruction to the ingestion of food *per vias naturales*, may yet be enabled to lay down their lives amid something like serenity and peace.

With a view to effect the same purpose, other novel proceedings have of late been proposed, and occasionally carried into practice. Thus, on the same principle that other sphincters, the sphincter ani, the neck of the bladder, the orbicularis palpebrarum, when affected by spasms, by hypertrophy, or both, provided the disease be non-malignant, have been treated by forcible stretching, or by division, to set them at rest, so the pyloric sphincter has been also treated.

Professor Loreto, of Bologna, does not hesitate in such cases to incise the stomach, and introducing his fingers into the pyloric or cardiac orifice, as the case may be, forcibly to dilate it, and he reports some half-dozen cases successfully treated in this way.

I have never performed this operation myself, nor have I seen it performed, but I can accept it as correct in principle; and, in any very grave case of dilatation of the stomach which failed to yield to the syphon-tube, I would either perform it or sanction its performance with full hope of success.

Emboldened by these advances, and led in the attempt by the great Austrian surgeon, Billroth, attempts have of late years been made to deal with malignant disease in portions of the stomach itself, and the complete excision of its pyloric extremity has been several times attempted. That such an operation is mechanically possible has been abundantly proved; and if the art of surgery were the only or even the chief aim to be held in

view in our study of its principles, we should not be long before we saw it exalted far above its present position.

From time immemorial the dexterity of surgical manipulation has been the admiration of the world; and if surgery depended on such skill as the most perfect education of the hand and of the eye could confer, it would long ago have reached its acme; but, invaluable as the art of surgery may be, it is to its science that we must ever look as its crowning glory; and, unless an operation have something to be recommended in it beyond the mere possibility of its mechanical performance, I do not think it is likely to stand the tests of time and of extended repetitions.

Judged by this standard, let us look at this operation of excision of the pylorus. That it is mechanically possible has been proved beyond question. Only a few weeks ago, while I was traveling with Mr. Jessop, he told me that he was about to perform this operation; and, in a few days afterward, that he had done so. I was not fortunate enough to see the operation; you, doubtless many of you, were; and so recent an advance in surgery is it, that I do not for a moment hesitate to tell you that I have never seen it done. But, talking afterward with Mr. Jessop of this case, he told me the lessons he had learned by its performance. It proved a very long and tedious proceeding, and it required infinite patience. The process of stitching together the divided segments of the alimentary canal had been almost less difficult than he had anticipated, and more one of time than of any thing else. The number of stitches required had been very great, but, in the end, the junction effected had been so perfect that, had the patient lived, he should have had no fear whatever of leakage.

Unfortunately, the patient died; and at the post-mortem examination which followed, Mr. Jessop was able to prove and to demonstrate the perfection of the union, for, by attaching the stomach to the pipe of the water-cistern, he had been able to subject the junction to the full pressure of the water-power of the town without the escape of a drop. The art of the operation

had therefore been perfect beyond dispute; but the examination revealed other points bearing upon its science which place it in a different aspect. It showed, first, that at any rate in this particular case the operation, had it even succeeded primarily, would have come too late. The surrounding mesenteric glands were implicated, and were infiltrated with cancerous material; the disease, so far from being localized and confined to the pylorus, was diffused among surrounding structures and was not capable of entire removal, and, had the patient recovered from the operation, must very speedily have so increased as to prove fatal. All this Mr. Jessop attributed to the delay which had taken place and the time that had been wasted before resort was had to operation; and he expressed to me a pretty confident hope that, had he another opportunity in an earlier stage of the disease, he should be more successful, and that he should certainly not be dissuaded by any thing in this case from attempting it again under other and more favorable conditions.

And yet I doubt whether this operation will ever come to occupy a recognized place in curative surgery. Will it ever be resorted to for any thing but for malignant disease? And if only for cancerous conditions, with the certainty we have of the return of the disease, will the risk of the operation ever be worth the running except, as a last resource, when temporary and very evanescent relief is all that we can hope for from it? So powerful is the instinct of self-preservation, so strong the love of life, that here and there, perhaps, a gamester may be found to stake all upon the throw; but that the mere palliation, which is all that the surgeon can honestly promise as the result of his most effective and successful intervention, will ever be accepted as a sufficient inducement, save only to the very few, is in my opinion almost certain. I ought not, while speaking on this subject, to pass by—without allusion, at any rate—a recent attempt that has been made to secure for the patient the advantage to be derived from excision of the pylorus without running quite so serious a risk as must necessarily be involved in so grave a proceeding as its entire ablation. It has

been sought in such cases to attach the lower end of the duodenum or the upper portion of the jejunum to the stomach, and by opening a communication between these parts to leave the pylorus out of the track of the food altogether, and so place it at absolute and final rest; but as this and similar operations in other portions of the intestinal channel are as yet only, as it were, "in the air," I shall content myself just now with simply naming them. Should we live to meet again, another year, I may perhaps have something more to say of them.

What I have said of excision of the pylorus will also, in my judgment, apply to another attempt that has of late years been made in the same direction; namely, the excision of the diseased structure in cases of chronic obstruction of the bowel by a ring of cancerous growth. I have seen such a portion of bowel removed, and removed with an amount of skill, precision, and delicacy, that the mere art of surgery could not surpass, but with the same scientific aspect—the mesentery, which must be left, infiltrated, the system already impregnated, and the return of the disease certain; and yet, in many, very many, of these cases of chronic obstruction, I would not withhold the knife altogether.

Seeing how often it may arise from causes wholly independent of malignancy, and how difficult, how frequently impossible, an accurate diagnosis is, I think, that a patient so suffering should have the advantage that may possibly arise from an exploration placed fully before him; and I would urge the examination, by abdominal section of the obstructing cause; but, if I found that cause to be a ring of cancer, I should hesitate most seriously before I proceeded to its removal; not that I should think it unjustifiable, but simply useless, and as likely to put out the little flame of still flickering life, or to revive it only for an extension of future suffering.

On the general subject of obstruction of the bowels and its relief by operation, I should like to say a few words, and to gather up for your benefit the experience of my surgical life. As a student I never saw such a thing as an abdominal section

for the exploration of such a case. I never heard it discussed in consultation. So long as any outward hernial case could be detected, it was, of course, promptly examined, but when the obstruction was purely internal, palliative measures were all I ever saw attempted. I have seen the inflated and distended bowel punctured to give exit to its gaseous contents, and even that was looked upon as a great and dangerous thing to do; and of a truth it was so, for, while quite as likely to produce fatal mischief by the admission of fetid gas into the peritoneum as a more decided operation, the temporary relief afforded from pain and spasm was scarcely worth the risk that was run, and the remedy was never curative.

In the present day, as you know, many lives are saved, and are as valuable after an exploration as they were before, or more so; and the only question we have to determine is the propriety otherwise in any given case of an operation.

Where the obstruction is the result of prolonged peritoneal inflammation, and consequent enteric paralysis, it is manifestly absurd to suppose that any good can come of surgical interference. But there is a result of such peritoneal inflammation in which by timely help the surgeon may save life as easily as he does when he liberates a strangulated hernia.

By peritonitis, two or more coils of intestine may have become glued together, or bands of lymph may have been so stretched from point to point as to form snares, in which loops of healthy intestine may be caught and trapped, and life may thus be brought into sudden peril.

Such cases are usually as acute in the symptoms they produce as external herniæ are, and the symptoms by which they are accompanied are of the same order. Thus, a person in otherwise perfect health, at least as far as is known, is seized quite suddenly with severe abdominal pain, which soon culminates in prostration, nausea, hernial vomiting, with local distension and great tenderness of the belly, and complete constipation. No hernial tumor can be found, and yet all the symptoms are those of hernia with strangulation; and, in the name of

surgery, we are bound to explore the belly to see if there be not some such temporary obstruction capable of relief.

If it can be ascertained that the patient has on any former occasion suffered from peritonitis, enteritis, perityphlitis, or from any inflammation likely to have been productive of lymph, which may have become stretched out into bands, so much the greater is the call for interference.

Even as I write these lines many successful cases arise before my memory; and notably one in which a little boy, believed by his parents to have been in perfect health all day, was seized during the night with symptoms such as I have detailed. Every indication of acute strangulated hernia was present when I saw the child early in the morning, and yet no hernial swelling could be found. After watching the case for a few hours, and seeing that collapse and death were becoming imminent, I placed the necessity for an abdominal exploration before the parents, and was rewarded by receiving their free permission to do whatever I thought might save the child. What I found was a small portion of one side of an intestine, not by any means an entire knuckle, tightly trapped in the left internal inguinal ring, quite insufficient to make any external appearance, but which I was able without difficulty to liberate from within; and the release of which was followed by immediate and perfect recovery. After the boy got well he admitted that during the day he had fallen head over heels down a long flight of stone stairs, but had determined not to say any thing about it to any one.

In acute cases such as this, then, I think the course of the surgeon is quite clear. He may find a band, or some temporary obstruction, which he may be able to relieve; he may find an intussusception which he may be able to unfold, or an internal hernia of some kind, such as I have described.

Much more difficult cases to deal with are those of slower development, and less urgency of distress; such as may arise from occlusion by fecal accumulation, by some localized inflammation, by chronic invagination, or by implication in some diseased process not inherent in the intestine itself, but in surround-

ing parts and involving it. In such we have more time for deliberation; and by a careful observation we may generally, I think, come to a safe conclusion as to whether nature may be trusted with the case, or whether an exploration has become necessary. But we are more liable to be misled in these than in the former cases. Let me relate a case in point:

I was once summoned to such a case at a distance, and was urged by the practitioner in attendance to explore. I at once declined, on the ground that the symptoms were neither sufficiently urgent to demand so serious a proceeding, nor was the time during which they had existed sufficiently long.

Moreover, I received from the patient in justification of delay the assurance that, on three previous occasions, she had passed through similar and worse symptoms and recovered, and felt quite sure she should do so again. I left her, and, I must say, felt no very great anxiety about her; but on the fifth day afterward I was hastily summoned to her again, and found her in a condition of collapse, from which I saw in a moment that she could not recover unless something could be done by operation, and I proceeded to operate at once. I shall not readily forget the distress I experienced when I saw the solution of the difficulty, for I had lost an opportunity to save a life that might, perhaps, have been saved. Stretching from the left ilium to the front of the sacrum was an old inflammatory band which formed a bridle across the rectum, and lightly obstructed it. Feces passing from the sigmoid flexure into the rectum were to some extent obstructed by it in their course, and such obstruction had, no doubt, been the cause of the previous illness of which I had heard. But this time there was this much more: a large intestinal concretion, probably of biliary origin, had got so far on its way as the obstructing band; that it could not pass, and the band was too strong to yield; so in the struggle between them the intestine had become gangrenous around the obstruction and had given way.

Of course, the patient died; and though I could not charge myself with the blame of her death, I have never ceased to feel

that, had I operated when I was first urged to do so, she might have been saved.

Then, finally, there are those long-continued cases, manifestly chronic, commencing originally with almost unnoticeable symptoms, which go on growing worse from week to week and from month to month, till at last it becomes a case of either death or operation, and probably of death any way. These are the cases which generally depend upon abnormal growths of some kind or other, either in the intestine itself or in neighboring structures, in which, as I have said, I should feel inclined to explore as a *dernier ressort* and be guided by what I found as to what I did.

Into one or other of these three classes most cases of intestinal obstruction will fall; and just as the bent of your judgment is of the very active surgical order or the reverse, so, probably, will your practice be; and if you live to enjoy length of days and much surgical experience, I feel pretty sure that in the end you will come to very much the same conclusion as I have done.

Cocaine Hydrochlorate in Diseases of the Nose and Throat. — Dr. George W. Major contributes an interesting article on this subject to the Canada Medical and Surgical Journal, based on a study of over three hundred cases, from which we take the following:

Solutions of cocaine undergo, when a few days old, some slight change, and a deposit of a fungus takes place; but this, in my experience, does not in any way impair the activity of the drug. If the cocaine be dissolved in distilled water, to which a small quantity of salicylic, boracic, or carbolic acid has been added, the solution will remain stable—and for use in the air-passages these additions are unobjectionable. The strength of the solution to be employed in the upper respiratory tract depends upon such conditions as each case may present, and will vary from one to twenty per cent.

For all practical purposes of allaying pain the ordinary four-per-cent solution has in my hands answered every expectation,

but where mere steadiness or lessened sensibility is all that is sought, a one or two per cent will generally be found sufficient.

Before applying cocaine to the nasal chambers or upper throat it is well, for economical reasons as also for efficiency, to wash away the protecting mucus by means of a weak alkaline spray. This simple procedure facilitates its action and saves both time and material.

Generally speaking, a period of time varying from three to five minutes is required for the production of perfect anesthesia, and this may be maintained indefinitely by repeating the applications at short intervals; anesthesia will, however, last unaided for ten or fifteen minutes. Cocaine only protects those parts to which it is directly applied, and does not, in my opinion, exercise any influence on contiguous surfaces. It is therefore necessary for success that all applications should be made carefully and thoroughly. The quantity of solution required for each sitting depends upon the region and the extent of surface to be influenced, and also upon the strength of the solution employed.

Before proceeding to make painful applications it is prudent to test the extent of the local anesthesia by means of a probe; when the sensation is that of pressure only, as perfect anesthesia has been obtained as is possible, or, indeed, required, for superficial operations.

For the purpose of making applications to the nasal passages, I use small camel-hair pencils mounted on long and slender handles; for the upper throat, brushes of the same kind, but larger; for the larynx I first apply weak sprays, and after sensibility has thus been lowered I employ the ordinary rectangular throat brush. In all the regions under notice several *coats* are generally necessary. Before dipping the brush into the medicated solution it is well, for obvious reasons, to wet it thoroughly in simple water.

For operations in the larynx a stronger solution than the four-per-cent is called for, as the latter, though it aids very materially any surgical procedure, still does not sufficiently overcome spasmodic closure, and this prevents a clear view.

The action of cocaine as a local anesthetic is but one of many remarkable properties possessed by it.

When applied to the mucous lining of the upper air way it causes at first a slight burning sensation, followed instantly by a numbness, resembling the action of very hot water minus the pain; this is followed by a stiff, leathery feeling, accompanied by a desire to swallow, with at first a difficulty in doing so. The taste is acrid, bitter, and very disagreeable, and the odor slightly vinous. Cocaine unloads the superficial vessels, reduces swelling of the membrane by its very marked astringent action, and produces blanching of the surface with which it is in contact.

Cocaine, when administered internally, possesses the same power of narrowing peripheral arteries. This latter property has been known to laryngologists for years, and various preparations of cocoa (erythroxylon) leaves have been employed by them in cases of hyperemia and irritable conditions of the pharyngo-larynx where sedatives have been indicated.

In cases of nasal disease this property of contracting the soft tissues on their bones is one of very great moment, as it facilitates the view of parts otherwise invisible, and aids very materially delicate manipulation, and lessens the tendency to hemorrhage.

In the pharyngeal region its action is that of a sedative and astringent, and in the larynx it combines these properties with that of being a powerful voice-tonic.

The uses to which cocaine may be applied in the nose and throat are legion. As a local anesthetic it claims first place, and if properly handled it will not disappoint our most extravagant expectations.

The sensitiveness of mucous surfaces varies greatly in health and disease, and we must be prepared, if necessary, to increase the strength of our solutions should we fail to produce sufficient anesthesia with one of lower power.

As a local anesthetic it may be employed in the nasal cavities to prevent immediate suffering from painful applications, as, for instance, chromic, acetic, or nitric acid, nitrate of silver,

and so forth; to allay the pain caused by the introduction of instruments, as probes, snares, forceps, etc.

In the galvano-caustic method it succeeds most effectually in controlling pain, as also in the removal of tumors, outgrowths, and excrescences of whatever kind. Cocaine also contracts the venous sinuses, and aids diagnosis and manipulation by opening up a previously occluded passage. It prevents altogether, or lessens, the tendency to hemorrhage or oozing, and thereby does away with one source of annoyance and discomfort. It arrests the tendency to sneeze, so frequently met with in cases of nasal disorders. In coryza it will be found of at least temporary benefit, and will do much to hasten the cure by galvano-cauterization. In nasal asthma, a more common condition than is generally suspected, it must prove a valuable acquisition. In cutting through adhesions between turbinated tissue and the septum, in removing the angles of deflected septa, and in punching the same for correction of the deviation, it has already proved a signal help.

In the vault it may be employed in the removal of adenomata or other growths, and in fact in any operative procedure in that region.

In herpes occurring on the posterior surface of the velum, a most painful and obstinate complaint, it affords marked comfort and relief.

In the pharynx and upper throat it will be found effectual in removing painful conditions, especially if accompanied by a hyperemic state in the various ulcerations of the tonsil pillars and parts surrounding, of such frequent occurrence in syphilis, and occasionally seen in tuberculosis; in allaying the pain of cancerous disease, and aiding the power to swallow. In rheumatic pharyngitis it has afforded relief. As an application before operating in follicular disease of the pharynx, it acts with certainty in relieving pain. In uvulotomy and in extirpation of the tonsils it has given fairly good results in my hands.

In the larynx it may be used with benefit in tubercular disease, whether characterized by ulceration or simply by swelling.

Its valuable astringent and sedative properties render it particularly advantageous in these cases. Its influence in the prevention of cough is, to say the least, remarkable.

In edema of the larynx I have seen it prove useful. In ulceration of the epiglottis, ary-epiglottic folds, or post-laryngeal wall, rendering swallowing painful and difficult, it will allow the taking of ample nourishment if applied ten or fifteen minutes before the meal.

In whooping-cough (though my experience has not been as great with the remedy as I should like, in order to speak authoritatively) it has, in the few instances in which I have used it, yielded happy results. The cough has been completely checked for six or eight hours, and perceptibly mitigated for twenty or more. I believe it will score a great future success in this malady. In all the endo-laryngeal operations it so steadies the parts that the progress of manipulation can be easily followed in the field of the mirror. Papillomata and growths, of whatever nature and however small, may be removed with expedition and accuracy by its aid.

For laryngeal uses the four-per-cent solution is not sufficiently powerful. Eight or ten per cent answers much better, and even a twenty per cent will probably be required in some cases.

In nervous subjects, when either post-rhinoscopic or laryngoscopic examinations are difficult or even impossible, it will, if used as a spray, greatly facilitate and simplify the undertaking.

We must not expect from cocaine impossibilities; if it allays present pain, we must not regard it as a failure should after-pain ensue. In my opinion it modifies the painful character of wounds, reduces the amount of local irritation, and renders the nervous shock less.

In the hypertrophic nasal cases cocaine was had recourse to purely as a means of allaying the suffering caused by painful procedures, and in this it succeeded admirably. Nitric, acetic, and chromic acids, as well as the galvano-cautery, were employed without causing the slightest discomfort. In fact, more

complaints were made by the patients when the cocaine was in course of application than when the caustics themselves were *in situ*. Regard was, of course, had to the extent of surface operated upon on each occasion.

The operations on the pharynx and neighborhood were principally for the destruction of enlarged follicles and varicose vessels. Cocaine here answered the threefold purpose of lessening irritability, giving steadiness to the parts, and rendering the application of the galvano-cautery electrode painless. It also reduced the caliber of vessels in a very remarkable manner.

In the case of a clergyman who was suffering from an inflamed and painful throat, which rendered articulation difficult, a single application of a four-per-cent solution conferred such immunity from pain that on the same evening he was enabled to keep an appointment to deliver a public lecture. He afterward assured me that he never was in better voice, and spoke with ease.

In conclusion, I desire to express my confidence in the value of cocaine hydrochlorate when used as a local anesthetic in the air-passages. In every case in which I have used it to allay the pain attending surgical measures in these regions it has accomplished its purpose. In order to attain success, let me repeat that not only must the region to be operated upon be protected, but also the surfaces immediately adjoining; that the application must be made in a thorough manner, and that it must be of sufficient strength and used freely. Many of the reported cases of partial failure with cocaine in the larynx are directly the result of leaving areas unprotected. The substitution of proper atomization for the method of application by the brush would, I am sure, render success more certain. I feel that it is unnecessary to refer to the many advantages the use of cocaine possesses over chloroform, ether, and other anesthetics in the minor surgery of the nose and throat. Nor need the cost of applying it be as great as the market value of the drug would at first suggest, if the few directions I have briefly laid down be carefully followed.

THE INFLUENCE OF CIMICIFUGA RACEMOSA ON PARTURITION. In a paper on the cohosh, contributed to the Chicago Medical Journal and Examiner by Dr. J. Suydam Knox, he says:

My cases number one hundred and fifty: fifty-seven primiparæ and ninety-three multiparæ. Considering labor as commencing as soon as pains are regular, its average duration among primiparæ was six and one fourth hours, and among multiparæ exactly three hours.

Considering the second stage of labor as beginning with full dilatation of the external os, its average duration among the primiparæ was one hour and forty-five minutes, and among the multiparæ only twenty-seven minutes.

In reviewing my notes of the above one hundred and fifty cases, I have come to the following conclusions:

(1) Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability. Nausea, pruritis, and insomnia, so common in the last six weeks of pregnancy, are always bettered, and often disappear, under its administration.

(2) Cimicifuga has a positive anti-spasmodic effect upon the parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact, during the first indiscriminate use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

(3) Cimicifuga relaxes uterine muscular fiber and the soft parts of the parturient canal by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

(4) Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

(5) It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery. It is my habit, however, to administer fifteen to thirty minims of fluid extract ergot after the birth of the fetal head, and I have had but few opportunities of testing this effect of the cohosh.

My method of administration has been to give fifteen minims

of the fluid extract of cimicifuga in compound syrup of sarsaparilla each night for four weeks before the expected confinement.

One fluid ounce of the fluid extract cimicifuga to three fluid ounces compound syrup sarsaparilla—dose, one teaspoonful—makes just the required quantity.

AN EPIDEMIC OF TYPHOID FEVER FROM CONTAMINATED SEWAGE—Drs. M. S. French and E. O. Shakespeare, having been requested by the Mayor of Philadelphia to visit Plymouth, near Wilkesbarre, Pennsylvania, where an epidemic has existed for the last month, read the subjoined preliminary report before the Philadelphia County Medical Society:

They found that Plymouth was situated in a valley, on the border of the river Susquehanna. The city of Wilkesbarre, of 30,000 inhabitants, delivers its sewage into the river only two miles above, and the refuse-water from abattoirs and the coal mines is also pumped into the river. The neighborhood of Plymouth is supplied by water from three sources: the Susquehanna River, shallow wells, and by a reservoir fed by mountain streams, the latter usually being sufficient to supply the needs of the town; but, on account of the springs being frozen, the water company about March 20th commenced pumping the river-water into its mains, but discontinued a week later.

Upon investigating the subject, it was found that during February and March a case of typhoid fever had been under treatment on the mountain near the water-course which supplied the reservoir, and the nurse had thrown the excreta out on the frozen ground on the border of the stream. In March, a thaw with rain came and washed the excretions into the reservoir, and the solution was subsequently distributed through the pipes to a large part of the city. In ten days' time the epidemic began, fifty cases of typhoid fever occurring daily between the 5th and 15th of April. The part of the town supplied exclusively by well-water and the river-water escaped entirely, with the exception of a few inhabitants who were in the habit of

drinking some of the mountain water in the morning at home, before going to their daily work. In other parts of the town the extent of the disease was in direct ratio to the amount of spring-water which was used. Notwithstanding the filthy character of the water from the river it did not originate any cases of the disease.

The investigation of this instructive epidemic, in which some twelve hundred cases of typhoid fever occurred in a small town, with a mortality of nearly one hundred, emphasizes some important points and principles: (1) That the epidemic was caused by an infected water-supply; (2) That a single case of typhoid fever may originate an epidemic if the excreta are allowed to pollute drinking-water; (3) That the water-supply may be contaminated by sewage, and yet in the absence of the specific poison not cause typhoid fever; (4) That a freezing temperature does not destroy the activity of the typhoid fever germ, nor does dilution. Prior to the visit of Drs. French and Shakespeare, the sickness had been attributed to the use of the river-water, and the water company was enjoined and forbidden to use the water from the Susquehanna River, under penalty of having its charter revoked. (Boston Medical and Surgical Journal.)

THE SEVERE OR SO-CALLED "UNCONTROLLABLE" VOMITING OF PREGNANCY.—Dr. Graily Hewitt is reported, in the Transactions of the Obstetrical Society of London, to have summarized his opinion on the subject of this form of vomiting as follows:

(1) That the cases in which the disease is due to some other organ than the uterus are so few in number (only one in the series of thirty-two) that they may be almost excluded from consideration; (2) That in the large majority of cases the disease presents itself during the first half of pregnancy; (3) That the evidence points to interference with the normal expansion and growth of the gravid uterus as the condition of the production of this dangerous affection, and that this is most frequently brought about by or in connection with detention of the bulk of the uterus in the bony pelvis, in eighty-eight per cent the uterus

being anteflexed or anteverted, and in twelve per cent in a state of retroversion—the other conditions met with being hardness, resistance, or unusual rigidity of the os and tissues of the cervix; (4) There appears to be two factors to be considered capable of interfering with the expansion of the uterus, (*a*) incarceration, with flexion or version, (*b*) undue hardness and rigidity of os and cervix. These may be conjoined in a given case.

It appears to be borne out by the facts recorded, that the incarceration is the more important of the two factors, as a rule at least. The facts appear to point to the occurrence of embarrassment in the expansion of the uterus very early in the pregnancy, such as might be expected to be occasioned by a previously flexed state of the uterus, or to a congested indurated state of the cervix, or to the two conditions combined. As the pregnancy advances the congestion and swelling are intensified, and the resistance to expansion is thus increased. It appears probable that the particular cause of the sickness observed is the compression of the nerves situated in the tissues which are especially exposed to compression, viz., those around the cervix uteri, and especially those near the internal os. Copeman's success in the treatment of severe sickness by dilating the internal os is evidence in this direction. The importance of the flexion element has been denied, one principal objection being that sickness is not always present when the uterus is flexed. But the case is the same in the non-gravid uterus; severe sickness is not seldom due to flexion of the non-gravid uterus, while flexions are observed without sickness. Corroboration of the author's views are contained in Gehrung's recent paper. As a rule, severe sickness is limited to the first half of pregnancy; in a very few cases it persists longer. In these rare cases the cause may be rigidity of the tissues round the internal os persisting to a late period. As regards treatment, the first indication is to secure the normal upward movement of the fundus uteri, to relieve the incarceration of the uterus when present, if that be possible, and to prevent its occurrence by a properly

arranged method of treatment. Absolute rest in the supine position if anteversion be present, or on the face or side if retroversion be present, and the use of the knee-elbow position will be required. These measures suffice in many cases. If the uterus be fixed, gentle continuous pressure must be applied internally by the fingers, or by an air-ball, and the position maintained by a suitable pessary. These measures failing, Copeman's procedure of dilating the cervix should be employed. The last alternative, induction of artificial abortion, will, it is believed, be rendered unnecessary if the other less severe measures are applied sufficiently early.

Schultz's Method of Resuscitating the New-born Child in Cases of Asphyxia.—The child is held by the shoulders, the thumbs resting upon the thorax, the child's head toward the operator, and its anterior surface to the front; it is then swung upward, so that its feet perform a revolution, and lie between the head and the operator's body, the trunk being then in a state of forced flexion. The original position is then resumed by a reverse movement, and the repetition of these movements constitutes the method. Dr. Neale regarded it as more effective than Marshall Hall's or Sylvester's, and related a case in which resuscitation had been secured after ten minutes, the measures mentioned and all others having been tried in vain.

Permanganate of Potassium in Amenorrhea.—Edmund J. Doering, M. D., of Chicago, says, in Chicago Medical Journal and Examiner, on this subject: (1) Permanganate of potash, in doses of from two to four grains, is an efficient emmenagogue, if administered for a period of not less than two weeks. (2) Its administration in doses large enough to be effectual is accompanied by severe pain, which frequently necessitates a discontinuance of the remedy, and hence impairs its value as an emmenagogue. (3) The most efficient method of administering the drug is in capsules, taken midway between meals, and followed by large draughts of some pure mineral water, like silurian.

Notes and Queries.

KENTUCKY STATE MEDICAL SOCIETY.—The thirtieth annual meeting of the Kentucky State Medical Society will be held at Crab Orchard Springs, Lincoln County, Kentucky, on Wednesday, Thursday, and Friday, June 24th, 25th, and 26th, 1885, commencing on Wednesday, June 24th, at two o'clock P. M.

The indications at present point to a large attendance, and all sections of the State promise to be represented.

Voluntary papers from members are respectfully solicited. Those intending to read papers will please furnish the titles to the Secretary by June 15, 1885.

The proprietors of the Springs will charge members and their families but $1.50 each per day.

S. M. LETCHER, *Permanent Secretary.*

A JUST REBUKE OF A BAD HABIT.—Dr. Alfred Sheen, of Cardiff, Wales, in his address before the South Wales branch of the British Medical Association, thus refers to a habit on the part of the public from which practitioners suffer alike in America and Great Britain: "The public have got into a bad habit, mainly through our own fault, of sending for us at all hours of the day and night, where there is really no urgency. Let it be generally accepted as a professional rule that patients requiring to be visited should send before a certain hour in the morning, and this annoyance will be much lessened. A gentleman sent for me one Sunday just as I was sitting down to dinner. I had my dinner before going to see him, and on my arrival I was greeted with the remark, 'I never saw such a set of fellows as you doctors are; you are never to be got hold of when you are wanted.' My patient was sitting comfortably in his easy chair, enjoying a light lunch, with some champagne to wash it down; he had been suffering from diarrhea, but was then somewhat better. On the question of fee in this case, I acted upon this

thought: people who want special trains must be prepared to pay for them, and if they are not they must be content to travel by ordinary ones. I dare say some of you have heard the anecdote of the lawyer who received visits from a troublesome client on several occasions at his house in the evening; on one of these occasions the client apologized for being so troublesome. 'Oh, my dear fellow,' said the lawyer, 'pray don't mention it. I always charge double for consultations away from the office.'"

"WESTWARD THE STAR OF EMPIRE TAKES ITS WAY."—New books are certainly coming out here, but in sparse quantity compared to the legion springing up on your side of the water, many of which find their way over here and are in repute. Not only are the products of the United States in drugs and chemicals taking the lead of home productions, but in literature they are threatening the old supremacy of England, or rather the United Kingdom, for Edinburgh always has held a good position in medicine, and when a Dublin man does gird up his loins for a book it is usually a good one. (Dr. J. Milner Fothergill, in Philadelphia Medical Times.)

CARBOLIC-ACID ENEMATA IN DYSENTERY.—Schtchegloff and Kampf (London Medical Record) report twenty cases of acute dysentery which were treated with injections with a solution of carbolic acid (one to five hundred), repeated two or three times each day. Only three of the patients were under treatment for more than four days, and five were cured in a single day. No general disturbances were noticed after the use of the acid. It did not act satisfactorily when administered by the mouth. Kampf is so enthusiastic as to regard carbolic acid as the specific in this disease.

THE IDEAL PHYSICIAN.—Prof. Gairdner thus describes him: "He must have a soul above mere money-grubbing; must, on no account, degrade his profession into a trade; but must be, as far as is possible to human nature, the disinterested friend, the

companion, the good genius, I had almost said, of all his patients. He must be a man endowed with a deep sense of moral responsibility, so as to beget confidence and unfailing trust in him on the part of his fellow men. Responsibility, therefore, to them in the first instance; but underlying that—and sustaining it as surely as the root and the stem sustain the flower—a deeper and more latent responsibility to Him who is the source of all good, and therefore of all moral principle and moral responsibility whatever."

THE French Academy of Medicine has awarded a prize to Dr. Murrell, of Westminister Hospital, London, for his discovery that nitro-glycerine is a remedy for angina pectoris.

AT the thirty-fifth annual session of the South Carolina Medical Association, held at Charleston, April 25, 1885, under the presidency of Dr. A. A. Moore, the following officers were elected for the ensuing year: Dr. O. B. Mayer, jr., of Newberry, President; Dr. Thomas J. McKie, of Edgefield, First Vice-President; Dr. W. P. Porcher, of Charleston, Recording Secretary; Dr. J. L. Dawson, jr., of Charleston, Corresponding Secretary; Dr. W. H. De Saussure, jr., of Charleston, Treasurer.

INDIANA STATE MEDICAL SOCIETY.—At the annual meeting of this Society, held May 13th, the following officers were elected for the ensuing year: President, J. S. Gregg, M. D., of Fort Wayne; Vice-President, W. J. Hurt, M. D., of Waynetown; Secretary, E. S. Elder, M. D., of Indianapolis; Assistant Secretary, W. H. Lopp, M. D., of Columbus; Treasurer, G. W. H. Kemper, of Muncie.

THE Mississippi State Medical Association held its eighteenth annual meeting at Greenville, April 15th and 16th. The following officers were elected for the ensuing year: Dr. J. B. Gresham, of West Point, President; Dr. I. B. Pease and S. R. Dunn, Vice-Presidents; Dr. M. S. Craft, Corresponding Secretary; Dr. W. E. Todd, of Clinton, Recording Secretary. The Society meets next year at Jackson.

A HOME AND PRACTICE FOR SALE.—A comfortable home, with two acres of land — good dwelling, cistern, ice-house, stable, etc. — situated in Clintonville, Bourbon County, Ky. Good location for a physician. Daily mail. Correspondence solicited. H. W. Alexander, M. D., Clintonville, Bourbon County, Kentucky.

ANOTHER AMERICAN BOOK ABROAD: LUSK'S OBSTETRICS.—The last American edition of Prof. Lusk's work on Obstetrics and Diseases of Women and Children has been translated into French by Dr. Doleris, with a preface by Prof. Pajot.

INTERNATIONAL MEDICAL CONGRESS.—The ninth session of this Congress is to be held in Washington, D. C., in 1887. The following rules and provisional lists of officers are published by order of the Executive Committee:

1. The Congress will be composed of members of the regular medical profession, and of such persons as may be specially designated by the Executive Committee, who shall have inscribed their names on the register of the Congress and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynecological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing societies being entitled to appoint one delegate for every ten of their members.

The members of all special and subordinate committees appointed by the General Committee shall also be entitled to membership in the Congress.

All societies entitled to representation are requested to elect their delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the delegates so appointed.

2. The work of the Congress is divided into nineteen sections, as

follows, viz: (1) Medical Education, Legislation, and Registration, including methods of teaching and buildings, apparatus, etc., connected therewith; (2) Anatomy; (3) Physiology; (4) Pathology; (5) Medicine; (6) Surgery; (7) Obstetrics; (8) Gynecology; (9) Ophthalmology; (10) Otology; (11) Dermatology and Syphilis; (12) Nervous Diseases and Psychiatry; (13) Laryngology; (14) Public and International Hygiene; (15) Collective Investigation, Nomenclature, and Vital Statistics; (16) Military and Naval Surgery and Medicine; (17) Practical and Experimental Therapeutics; (18) Diseases of Children; (19) Dental and Oral Surgery.

3. The general meetings will be reserved for the transaction of the general business of the Congress, and for addresses or communications of scientific interest more general than those given in the sections.

4. Questions which have been agreed upon for discussion in the sections shall be introduced by members previously nominated by the officers of the section. The members who open discussion shall present in advance a statement of the conclusions which they have formed as a basis for debate.

5. Notices of papers to be read in any of the sections, together with abstracts of the same, must be sent to the secretary of that section before April 30, 1887. These abstracts will be regarded as confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various sections will be received. Any member, after April 30th, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The officers of each section shall decide as to the acceptance of any communication offered to their section, and shall fix the time of its presentation. No communication will be received which has already been published or read before a society.

6. All addresses and papers, read either at general meetings or in the sections, are to be immediately handed to the secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the Transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

In the sections no speaker will be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The rules, programmes, and abstracts of papers will be published in English, French, and German.

Each paper or address will appear in the Transactions in the language in which it was delivered by the author. The debates will be printed in English.

9. The officers of the General Committee on Organization are a President, such number of Vice-Presidents as may hereafter be determined on, a Secretary-General, and a Treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election. Honorary presidents of the Congress and of the several sections may be appointed at the meeting of the Congress.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, the Chairman of the Finance Committee, and of four other members to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee, to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions, reporting such action at the next meeting of the General Committee.

11. There shall be a standing Committee on Finance, composed of such number of persons as the Executive Committee may deem expedient, to be appointed by the President, subject to the approval of the Executive Committee. The Chairman of the Finance Committee shall be *ex-officio* one of the Vice-Presidents of the Congress, and also a member of the General and Executive Committees. The Treasurer shall be *ex-officio* a member of the Finance Committee.

12. Presidents of the sections shall be *ex-officio* members of the General Committee.

13. The Committee on Organization of each section shall be composed of a president, such number of vice-presidents as may be deemed expedient, of one or more secretaries, and of members forming a council.

PRELIMINARY ORGANIZATION.

President, Austin Flint, sr., M. D., New York.

Vice-Presidents, Henry I. Bowditch, M. D., Boston; Henry F. Campbell, M. D., Augusta, Ga.; Nathan S. Davis, M. D., LL. D., Chicago; R. Palmer Howard, M. D., Montreal; Levi C. Lane, M.D., San Francisco; Tobias G. Richardson, M. D., New Orleans; Alfred Stillé, M. D., LL. D., Philadelphia; the Chairman of the Committee on Finance; the President of the American Medical Association; the

Surgeon-General of the United States Army; the Surgeon-General of the United States Navy.

Secretary-General, John S. Billings, M. D., LL. D., U. S. A., Washington.

Treasurer, John Mills Browne, M. D., U. S. N., Washington.

General Committee, Robert Battey, M. D., Rome, Ga.; Clarence J. Blake, M. D., Boston; Henry P. Bowditch, M. D., Boston; Samuel C. Busey, M. D., Washington; James R. Chadwick, M. D., Boston; J. M. Da Costa, M. D., Philadelphia; John C. Dalton, M. D., New York; W. W. Dawson, M. D., Cincinnati; Francis Delafield, M. D., New York; George J. Engelmann, M. D., St. Louis; William A. Hardaway, M. D., St. Louis; I. Minis Hays, M. D., Philadelphia; David L. Huntington, M. D., United States Army, Washington; Abraham Jacobi, M. D., New York; Hosmer A. Johnson, M. D., LL. D., Chicago; Christopher Johnston, M. D., Baltimore; R. A. Kinloch, M. D., Charleston, S. C.; George M. Lefferts, M. D., New York; Joseph Leidy, M. D., LL. D., Philadelphia; S. Weir Mitchell, M. D., Philadelphia; Henry D. Noyes, M. D., New York; Thaddeus A. Reamy, M. D., Cincinnati; Thomas F. Rochester, M. D., Buffalo; Lewis A. Sayre, M. D., New York; Jonathan Taft, M. D., Cincinnati; W. Chew Van Bibber, M. D., Baltimore; Horatio C. Wood, M. D., Philadelphia; David W. Yandell, Louisville, Ky.

Executive Committee, I. Minis Hays, M. D., Chairman, Philadelphia; the President, the Secretary-General, the Treasurer, the Chairman of the Finance Committee; Samuel C. Busey, M. D., Washington; Abraham Jacobi, M. D., New York; Christopher Johnston, M. D., Baltimore.

Standing Committee on Finance, William Pepper, M. D., LL. D., of Philadelphia, Chairman. [The organization of this committee will be announced hereafter.]

Section 1—*Medical Education, Legislation, and Registration.* President, Henry P. Bowditch, M. D., Boston. Vice-Presidents, Stanford C. Chaillé, M. D., New Orleans; Alfred Stillé, M. D., LL. D., Philadelphia. Secretaries, Samuel J. Mixter, M. D., Boston; William P. Whitney, M. D., Boston. Council, Nathan S. Davis, M. D., LL. D., Chicago; Henry D. Didama, M. D., Syracuse, N. Y.; Henry Gibbons, M. D., San Francisco; Daniel C. Gilman, LL. D., President Johns Hopkins University, Baltimore; James F. Harrison, M. D., University of Virginia; Charles A. Lindsley, M. D., New Haven, Conn.; William Pepper, M. D., LL. D., Philadelphia; J. F. Prioleau, M. D., Charleston, S. C.; John H. Rauch, M. D., Springfield, Ill.; L. McLane Tiffany, M. D., Baltimore.

Section 2—*Anatomy*. President, Joseph Leidy, M. D., LL. D., Philadelphia. Vice-President, Samuel Logan, M. D., New Orleans. Secretaries, William W. Keen, M. D., Philadelphia; George E. De-Schweinitz, M. D., Philadelphia; Council, Harrison Allen, M. D., Philadelphia; Frank Baker, M. D., Washington; Thomas Dwight, M. D., Boston; Francis L. Parker, M. D., Charleston, S. C.; Charles T. Parkes, M. D., Chicago; Thomas T. Sabine, M. D., New York; Nicholas Senn, M. D., Milwaukee; Francis J. Shepherd, M. D., Montreal; Robert W. Shufeldt, M. D., United States Army; Burt G. Wilder, M. D., Ithaca, N. Y.

Section 3—*Physiology*. President, John C. Dalton, M. D., New York. Vice-Presidents, James F. Hibberd, M. D., Richmond, Ind.; H. Newell Martin, M. D., Baltimore; Middleton Michel, M. D., Charleston, S. C. Secretary, John G. Curtis, M. D., New York. Council, G. Baumgarten, M. D., St. Louis; Henry G. Beyer, M. D., United States Navy; Henry P. Bowditch, M. D., Boston; Henry F. Campbell, M. D., Augusta, Ga.; Austin Flint, jr., M. D., New York; William Lee, M. D., Washington; John J. Mason, M. D., Newport, R. I.; S. Weir Mitchell, M. D., Philadelphia; Henry Sewall, M. D., Ann Arbor, Mich.

Section 4—*Pathology*. President, Francis Delafield, M. D., New York. Vice-President, William Pepper, M. D., LL. D., Philadelphia. Secretaries, Theophile M. Prudden, M. D., New York; William H. Welch, M. D., Baltimore. Council, Christian Fenger, M. D., Chicago; Reginald H. Fitz, M. D., Boston; Edward D. Janeway M. D., New York; James B. Johnson, M. D., St. Louis; Thomas E. Satterthwaite, M. D., New York; George M. Sternberg, M.D., United States Army; James Tyson, M. D., Philadelphia; William F. Whitney, M. D., Boston.

Section 5—*Medicine*. President, J. M. Da Costa, M. D., Philadelphia. Vice-Presidents, Alfred L. Loomis, M. D., LL. D., New York; James B. McCaw, M. D., Richmond, Va.; Richard McSherry, M. D., Baltimore; Alonzo B. Palmer, M. D., LL. D., Ann Arbor, Mich.; Thomas F. Rochester, M. D., Buffalo. Secretary, William Osler, M. D., Philadelphia. Council, Samuel C. Chew, M. D., Baltimore; William H. Draper, M. D., New York; William H. Geddings, M. D., Aikens, S. C.; William W. Johnston, M. D., Washington; George A. Ketchum, M. D., Mobile; Francis Minot, M. D., Boston; William Pepper, M. D., LL. D., Philadelphia; Beverley Robinson, M. D., New York; Andrew H. Smith, M. D., New York; James T. Whittaker, M. D., Cincinnati.

Section 6—*Surgery*. President, David W. Yandell, M. D., Louis-

ville. Vice-Presidents, D. Hayes Agnew, M. D., LL. D., Philadelphia; William T. Briggs, M. D., Nashville; Samuel W. Gross, M. D., Philadelphia; W. H. Hingston, M. D., Montreal; R. A. Kinloch, M. D., Charleston, S. C.; Edward M. Moore, M. D., Rochester, N. Y.; Lewis A. Sayre, M. D., New York. Secretary, John Collins Warren, M. D., Boston. Council, John Ashhurst, jr., M. D., Philadelphia; David W. Cheever, M. D., Boston; Phineas S. Connor, M. D., Cincinnati; W. W. Dawson, M. D., Cincinnati; George E. Fenwick, M. D., Montreal; Frederic H. Gerrish, M. D., Portland, Me.; J. C. Hutchison, M. D., Brooklyn; Christopher Johnston, M. D., Baltimore; Levi C. Lane, M. D., San Francisco; Thomas M. Markoe, M. D., New York; Alan P. Smith, M. D., Baltimore; J. Ford Thompson, M. D., Washington; Theodore R. Varick, M. D., Jersey City; Samuel B. Ward, M. D., Albany, N. Y.; Robert F. Weir, M. D., New York.

Section 7—*Obstetrics*. President, Thaddeus A. Reamy, M. D., Cincinnati. Vice-Presidents, William T. Howard, M. D., Baltimore; R. B. Maury, M. D., Memphis; John C. Reeve, M. D., Dayton, O.; Albert H. Smith, M. D., Philadelphia. Secretary, Paul F. Mundé, M. D., New York. Council, Robert P. Harris, M. D., Philadelphia; Alfred F. A. King, M. D., Washington; William T. Lusk, M. D., New York; Matthew D. Mann, M. D., Buffalo; Theophilus Parvin, M. D., Philadelphia; John Scott, M. D., San Francisco.

Section 8—*Gynecology*. President, Robert Battey, M. D., Rome, Ga. Vice-Presidents, William H. Byford, M. D., Chicago; Thomas Addis Emmet, M. D., LL. D., New York; Henry P. C. Wilson, M. D., Baltimore. Secretaries, James R. Chadwick, M. D., Boston; George J. Engelmann, M. D., St. Louis. Council, William H. Baker, M. D., Boston; William Gardner, M. D., Montreal; William Goodell, M. D., Philadelphia; A. Reeves Jackson, M. D., Chicago; J. Taber Johnson, M. D., Washington; George H. Lyman, M. D., Boston; Emil Noeggerath, M. D., New York; T. Gaillard Thomas, M. D., New York; Ely Van de Warker, M. D., Syracuse, N. Y.

Section 9—*Ophthalmology*. President, Henry D. Noyes, M. D., New York. Vice-Presidents, William Thomson, M. D., Philadelphia; E. Williams, M. D., Cincinnati. [Secretary to be announced hereafter.] Council, Cornelius R. Agnew, M. D., New York; Charles S. Bull, M. D., New York; Swan M. Burnett, M. D., Washington; A. W. Calhoun, M. D., Atlanta, Ga.; Hasket Derby, M. D., Boston; Samuel J. Jones, M. D., Chicago; Herman Knapp, M. D., New York; Edward G. Loring, M. D., New York; William F. Norris, M. D., Philadelphia; W. W. Seely, M. D., Cincinnati; Samuel Theobald, M. D., Bal-

timore; Oliver F. Wadsworth, M. D., Boston; Henry W. Williams, M. D., Boston.

Section 10—*Otology.* President, Clarence J. Blake, M. D., Boston. Vice-Presidents, Charles H. Burnett, M. D., Philadelphia; H. N. Spencer, M. D., St. Louis. [Secretary to be announced hereafter.] Council, Albert H. Buck, M. D., New York; John Green, M. D., St. Louis; J. Orne Green, M. D., Boston; Stephen O. Richey, M. D., Washington; Daniel B. St. John Roosa, M. D., LL. D., New York; Samuel Sexton, M. D., New York; George Strawbridge, M. D., Philadelphia.

Section 11—*Dermatology and Syphilis.* President, William A. Hardaway, M. D., St. Louis. Vice-Presidents, Louis A. Duhring, M. D., Philadelphia; James Nevins Hyde, M. D., Chicago; James C. White, M. D., Boston. Secretary, Arthur Van Harlingen, M. D., Philadelphia. Council, I. Edmondson Atkinson, M. D., Baltimore; L. Duncan Bulkley, M. D., New York; Edward L. Keyes, M. D., New York; Fessenden N. Otis, M. D., New York; Robert W. Taylor, M. D., New York; Edward Wigglesworth, jr., M. D., Boston; Henry C. Yarrow, M. D., Washington.

Section 12—*Nervous Diseases and Psychiatry.* President, S. Weir Mitchell, M. D., Philadelphia. Vice-Presidents, Charles F. Folsom, M. D., Boston; John P. Gray, M. D., LL. D., Albany, N. Y.; J. S. Jewell, M. D., Chicago. Secretary, Charles K. Mills, M. D., Philadelphia. Council, Roberts Bartholow, M. D., LL. D., Philadelphia; Allan McLane Hamilton, M. D., New York; Walter Hay, M. D., LL. D., Chicago; Francis T. Miles, M. D., Baltimore; James J. Putnam, M. D., Boston; Samuel G. Webber, M. D., Boston; Horatio C. Wood, M. D., Philadelphia; John P. Van Bibber, M. D., Baltimore.

Section 13—*Laryngology.* President, George M. Lefferts, M. D., New York. Vice-President, Frederick I. Knight, M. D., Boston. Secretary, D. Bryson Delavan, M. D., New York. Council, F. H. Bosworth, M. D., New York; William H. Daly, M. D., Pittsburgh; E. Fletcher Ingals, M. D., Chicago; J. N. Mackenzie, M. D., Baltimore; George W. Major, M. D., Montreal; E. Carroll Morgan, M. D., Washington; William Porter, M. D., St. Louis; E. L. Shurley, M. D., Detroit, Mich.

Section 14—*Public and International Hygiene.* President, Hosmer A. Johnson, M. D., LL. D., Chicago. Vice-Presidents, Ezra M. Hunt, M. D., Trenton, N. J.; John Berrien Lindsley, M. D., LL. D., Nashville; James E. Reeves, M. D., Wheeling, W. Va. [Secretary to be announced hereafter.] Council, Henry B. Baker, M. D., Lansing, Mich.; Alfred L. Carroll, M. D., Albany, N. Y.; Granville P. Conn,

M. D., Concord, N. H.; William H. Ford, M. D., Philadelphia; Daniel W. Hand, M. D., St. Paul; Jerome H. Kidder, M. D., Washington; Charles A. Lindsley, M. D., New Haven, Conn.; J. N. McCormick, Bowling Green, Ky.; J. H. Rauch, M. D., Springfield, Ill.; Joseph H. Raymond, M. D., Brooklyn, N. Y.; Joseph R. Smith, M. D., United States Army; Stephen Smith, M. D., New York; S. O. Vanderpoel, M. D., LL. D., New York; H. P. Wolcot, M. D., Cambridge, Mass.

Section 15—*Collective Investigation, Nomenclature, and Vital Statistics.* President, Nathan S. Davis, M. D., LL. D., Chicago. Vice-Presidents, Jerome Cochran, M. D., Mobile; Edwin M. Snow, M. D., Providence, R. I. Secretary, James F. Todd, M. D., Chicago. Council, Nathan Allen, M. D., Lowell, Mass.; Richard A. Cleeman, M. D., Philadelphia; J. H. Hollister, M. D., Chicago; Abraham Jacobi, M. D., New York; James T. Reeve, M. D., Appleton, Wis.; James Tyson, M. D., Philadelphia.

Section 16—*Military and Naval Surgery and Medicine.* President, David L. Huntington, M. D., United States Army; Vice-Presidents, Frank H. Hamilton, M. D., LL. D., New York; Hunter McGuire, M. D., Richmond, Va.; S. P. Moore, M. D., Richmond, Va., William E. Taylor, M. D., United States Navy (retired). Secretary, Benjamin F. Pope, M. D., United States Army. Council, Edmund Andrews, M. D., Chicago; Delavan Bloodgood, M. D., United States Navy; R. B. Bontecou, M. D., Troy, N. Y.; John H. Brinton, M. D., Philadelphia; Julian J. Chisolm, M. D., Baltimore; P. O. Hooper, M. D., Little Rock, Ark.; E. J. Marsh, M. D., Patterson, N. Y.; Claudius H. Mastin, M. D., Mobile; George Peck, M. D., United States Navy; W. F. Peck, M. D., Davenport, Iowa; Charles Smart, M. D., United States Army; J. Rufus Tyron, M. D., United States Navy; Alfred A. Woodhull, M. D., United States Army.

Section 17—*Practical and Experimental Therapeutics.* President, Horatio C. Wood, M. D., Philadelphia. Vice-Presidents, Robert T. Edes, M. D., Boston; F. Peyre Porcher, M. D., Charleston, S. C. Secretaries, Edward T. Reichert, M. D., Philadelphia; Robert Meade Smith, M. D., Philadelphia. Council, Robert Amory, M. D., Boston; Edward Curtis, M. D., New York; Lawrence Johnson, M. D., New York; Henry M. Lyman, M. D., Chicago; Samuel Nickels, M. D., Cincinnati; Isaac Ott, M. D., Easton, Pa.; Daniel Webster Prentiss, M. D., Washington; Charles Rice, M. D., New York; Charles H. White, M. D., United States Navy; Thomas F. Wood, M. D., Wilmington, N. C.

Section 18—*Diseases of Children.* President, Abraham Jacobi,

M. D., New York. Vice-Presidents, Samuel C. Busey, M. D., Washington; J. Lewis Smith, M. D., New York. Secretary, Thomas M. Rotch, M. D., Boston. Council, F. Forchheimer, M. D., Cincinnati; John M. Keating, M. D., Philadelphia; William Lee, M. D., Baltimore; John H. Pope, M. D., Marshall, Texas; John H. Ripley M.D., New York.

Section 19—*Dental and Oral Surgery.* President, Jonathan Taft, M. D., Cincinnati. Vice-Presidents, W. W. Allport, M. D., Chicago; William H. Dwinelle, M. D., New York; Jacob L. Williams, M. D., Boston. Secretaries, Edward A. Bogue, M. D., New York; George H. Cushing, M. D., Chicago. Council, W. C. Barrett, M. D., Buffalo; Thomas Fillebrown, M. D., Boston; F. J. S. Gorgas, M. D., Baltimore; Edward Maynard, M. D., Washington; H. J. McKellops, D. D. S., St. Louis; W. H. Morgan, M. D., Nashville; C. Newlin Peirce, D. D. S., Philadelphia; L. D. Shepard, D. D. S., Boston; James Truman, D. D. S., Philadelphia; J. W. White, M. D., Philadelphia.

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